

TRAC SUMMARY REPORT PSI DASHBOARD

CENTRAL ASIAN REPUBLICS (2012): HIV AND TB TRAC STUDY UNDERSTANDING RISK BEHAVIORS ASSOCIATED WITH HIV TRANSMISSION AND UTILIZATION OF HIV PREVENTION AND HIV/TB CO-INFECTION PREVENTION AMONG PEOPLE WHO INJECT DRUGS

Small Scale Midterm Study

Sponsored by:



PSI's Four Pillars

Bottom Line Health Impact * Private Sector Speed and Efficiency * Decentralization, Innovation,
and Entrepreneurship * Long-term Commitment to the People We Serve

Research & Metrics
Population Services International
1120 Nineteenth Street NW, Suite 600
Washington, D.C. 20036

Central Asia Republics (2012): HIV and TB TRaC study understanding risk behaviors associated with HIV transmission and utilization of HIV prevention and HIV/TB co-infection prevention among people who inject drugs in Karaganda, Osh, and Kulob. Small Scale Midterm Study.

PSI Research & Metrics
2012

© Population Services International, 2012

Contacts:

Leila Koushenova, Regional Representative of PSI/CAR
Population Services International
Almaty, Kazakhstan
050051, Dostyk 180
Koktem Business Center, 3rd fl
Tel/fax: +7 (727) 263 11 36
 +7 (727) 262 70 36
 +7 (727) 390 90 50, 51, 52, 53
E-mail: leila.koushenova@psi.kz

Amy Gregowski, Regional Researcher for Asia and Eastern Europe
Population Services International
E: agregowski@psi.org

Suggested citation of this work:

PSI Research & Metrics, "Central Asian Republics: HIV and TB TRaC study understanding risk behaviors associated with HIV transmission and utilization of HIV prevention and HIV/TB coinfection prevention among people who inject drugs in Karaganda, Osh, and Kulob, Small Scale Midterm Study," PSI Social Marketing Research Series, (2012)<<http://www.psi.org/resources/publications>>.

TABLE OF CONTENTS

RESEARCH TEAM.....	4
ACKNOWLEDGEMENTS.....	5
LIST OF ABBREVIATIONS.....	6
EXECUTIVE SUMMARY.....	7
BACKGROUND & RESEARCH OBJECTIVES.....	8
METHODOLOGY.....	10
SURVEY FINDINGS.....	13
I. DEMOGRAPHIC PROFILE.....	13
II. MONITORING DATA.....	15
III. SEGMENTATION DATA.....	31
CONCLUSION AND PROGRAM RECOMMENDATIONS.....	32
ANNEX.....	39
ANNEX A: MONITORING TABLES.....	39
ANNEX B: SEGMENTATION TABLES.....	53
ANNEX C: RELIABILITY ANALYSIS.....	55

RESEARCH TEAM:

Study design, field supervision, data analysis and report writing conducted by:

Marat Bakpayev

Julie Archer

Amy Gregowski

Shana Aufenkamp

Vu Ngoc Khanh

Ainura Moldokmatova

Janet Kim

Murat Narkulov

Olivia Dowling

Julia Gall

Maxim Kan

Field data collection conducted by:

Research Agency “BISAM Central Asia”

ACKNOWLEDGEMENTS:

The research represented in this report was supported by the USAID Dialogue on HIV and TB Project.

PSI/CAR conducted all training, supervision, and oversight of the data collection process. PSI/CAR's research team designed the study and analyzed findings. Key findings and program recommendations described in this report have been identified in consultation with multiple partner organizations including Countries' Ministries of Health, Republican AIDS Centers, Republican TB Centers, USAID, Global Fund, AFEW, ICAP, IOM, KNCV, Project HOPE, UNDP, UNAIDS, UNICEF, UNODC.

We would like to acknowledge the support provided by local NGOs in facilitating the data collection in all three countries. In addition, we would like to express our gratitude to the outreach workers who participated in this study for their willingness to share their experiences and inform efforts to increase results generated through effective evidence-based HIV prevention interventions.

Finally, we acknowledge the financial support provided by USAID, which made the study and this final report possible.

**Leila Koushenova,
Regional Representative
PSI/Central Asia**

LIST OF ABBREVIATIONS:

MDR-TB	Multidrug-resistant tuberculosis
MARPs	Most At Risk Populations
NGO	Non-Governmental Organization
OAM	Opportunity, Ability and Motivation
PSI/CAR	Population Services International/Central Asian Republics
PWID	People Who Inject Drugs
RDS	Respondent-Driven Sampling
SS	Sentinel Surveillance
TB	Tuberculosis
TRaC	Tracking Results Continuously
VCT	Voluntary Counseling and Testing
USAID	United States Agency for International Development

SUMMARY

I. Executive Summary

Under the USAID Dialogue on HIV and TB Project in Central Asia, the following TRaC study on people who inject drugs (PWID) focuses on 1) monitoring key behaviors of interest among PWID (injecting behavior and overdose experience, utilization of voluntary counseling and testing (VCT) services, TB testing and treatment, consistent condom use), and 2) understanding how differences in behavioral factors contribute to these behaviors of interest (sharing needles and syringes, VCT utilization, and TB testing).

The present study's findings show that while there is still some evidence of needles being shared among PWID, there appears to be more sharing of injecting equipment. This is especially the case among female PWID, although most PWID in the present study were male. As a result, programs should emphasize the importance of not sharing equipment, along with the importance of not sharing needles. It is possible that some PWID are still sharing needles due to their fear and discomfort of carrying clean needles/syringes, which is why it is necessary that programs educate PWID on their rights (i.e., so they are able to defend themselves should they be harassed by the police). Given that many PWID respondents received help with their first injection, and others indicated helping others inject for the first time, programs should continue to educate PWID on the importance of breaking the cycle of drug addiction (i.e., not encouraging drug use in others). Meanwhile, programs should also encourage PWID to take certain measures for dealing with their own drug use, such as the importance of using naloxone during an overdose and receiving drug addiction treatment services.

More PWID need to be encouraged to test for HIV, given that many PWID in the present study did not undergo HIV testing or receive their test results in the last 12 months. Programs should also ensure that these PWID are receiving proper testing by working with healthcare providers (i.e., ensuring PWID are getting counseling along with testing, making sure healthcare workers do not stigmatize PWID). A similar approach should be used for promoting TB testing, particularly emphasizing the importance of going through full treatment of TB in order to prevent drug resistance and other problems. By improving PWIDs' knowledge of HIV and TB and improving their social support for towards HIV and TB testing it is possible to encourage more PWIDs to test for HIV and TB. Improving HIV-related knowledge should also be a first step at increasing condom use among PWID, where the use of condoms among PWID with regular partners is particularly low.

II. Background & Research Objectives:

The HIV & AIDS epidemic in Eastern Europe and Central Asia is described as one of the fastest growing HIV & AIDS epidemics in the world. Annual numbers of newly reported HIV diagnoses are rising in the Central Asia Republics (CAR), where the number of people living with HIV in Eastern Europe and CAR has almost tripled since 2000, and reached an estimated total of 1.4 million in 2009.¹ The exception of this is Turkmenistan, which reports zero HIV cases.

Driven primarily by injecting drug use, high rates of HIV infection can be observed among most-at-risk populations (MARPs) along the drug trafficking routes that run from Afghanistan through Tajikistan, Uzbekistan, Kyrgyzstan, and Kazakhstan. PWID comprise a large proportion of total HIV cases in the region. Thus, HIV prevalence in this population is more than 10% both in Kyrgyzstan² and Tajikistan.³

Furthermore, HIV/TB co-infection also presents itself as a problem in Central Asia. In Kazakhstan and Tajikistan, the percentages of TB patients with a known HIV status are both greater than 75%, while in Kyrgyzstan this percentage is 0-14%.⁴ In Kazakhstan and Tajikistan, the percentages of HIV-positive TB patients who are enrolled on antiretroviral therapy (ART) are 50-74%. No data was available for Kyrgyzstan.⁵

Complicating this situation is the fact that Eastern European and Central Asian countries represent hot spots for multidrug-resistant tuberculosis (MDR-TB), where nearly one third of new and two thirds of previously treated TB cases become MDR-TB.⁶ Central Asia registers some of the highest levels of MDR-TB cases in the world. For instance, MDR-TB cases make up 30.3% of all new TB cases in Kazakhstan and 23.2% of TB cases in Uzbekistan. Preliminary results from Kyrgyzstan indicate that 26.4% of TB cases are MDR-TB cases.⁷

Regarding previously treated TB cases, 51.3% of cases were MDR-TB in Kazakhstan in 2011. Kyrgyzstan and Tajikistan registered similar percentiles in 2011 at 51.6% and 53.6% respectively. In Uzbekistan, 62.0% of previously treated TB cases were MDR-TB in 2011.⁸

¹ UNAIDS, 2010

² Sentinel Surveillance (SS), 2009

³ SS, 2011

⁴ WHO Global Tuberculosis Report, 2012

⁵ *Ibid.*

⁶ *Ibid.*

⁷ *Ibid.*

⁸ *Ibid.*

Table 1: HIV & AIDS in Central Asia among PWID

	Kazakhstan	Kyrgyzstan	Tajikistan
Estimated Population of PWID	1,569 (Karaganda)*	1,200 (Osh)***	2, 397 (Kulob)*****
HIV Prevalence among PWID	3.8% (all regions)**	14.3%(all regions)****	13.5% (all regions)*****

Notes:

* Kazakhstan official registration data 2011

** The Republican AIDS Center, 2012

*** NGO “Parents Against Drugs” estimation

**** Kyrgyzstan sentinel surveillance survey 2009

***** NGO “Anis” estimation

***** Tajikistan sentinel surveillance survey 2011

This TRaC study aims to answer fundamental questions related to understanding PWID populations in the CAR region. First, this study monitors five key behaviors of interest among PWID. These behaviors include the sharing of injecting equipment, the utilization of HIV testing and voluntary counseling (VCT), TB testing and treatment, consistent condom use, and HIV knowledge. Second, this study focuses on understanding how differences in opportunity, ability, and motivation (OAM) factors contribute to behaviors of interest among PWID in Central Asia.

III. Program Description:

With one of the fastest growing HIV & AIDS epidemics in the world, the USAID Dialogue on HIV and TB Project targets MARPS most likely to contract or transmit HIV: PWID (people who inject drugs), SWs (sex workers), migrants, MSM (men who have sex with men), prisoners, and PLWH (people living with HIV). Risk for TB infection is higher among PWID, prisoners and migrants, but is particularly dangerous for PLWH.

Addressing these health issues, PSI/CAR is implementing a 5-year USAID Dialogue on HIV and TB Project targeting populations most-at-risk for contracting HIV and TB in Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. The program began in September 30, 2009. The purpose of the project is to reduce risk behaviors associated with HIV transmission and to increase the utilization of HIV and TB testing and treatment services among MARPs. The USAID Dialogue on HIV and TB Project is working towards this goal through a combination of evidence-based activities: inter-personal communications (outreach, mini sessions, long-format sessions and “edutainment” events); informational-educational communications (informational booklets and leaflets); distribution of condoms and needles/syringes; referrals for HIV testing, TB testing and drug treatment; social escorts for testing; and case management for TB treatment. These activities are part of a high coverage social

marketing (SM) strategy to increase access to and availability of condoms as well as TB treatment.

Activities: The USAID Dialogue on HIV and TB Project in Central Asia provides technical assistance, training, and direct outreach services in order to increase access to quality HIV prevention and TB treatment services for those most at risk of contracting HIV and TB. The Project is implemented in the Central Asian republics of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. The Project employs outreach prevention models, proven effective under previous regional projects and deemed best practices, and adapts them to current program needs for each target population. Each model is composed of Targeted Outreach Package of Services (TOPS). Outreach activities range from peer education and client management to social escorts who take clients to HIV and TB services, complementing rather than duplicating existing services.

METHODOLOGY

I. Study Population and Inclusion Criteria:

A total of 300 PWID participants (N=300) were recruited from three sites in the Central Asian Republics. These sites included Karaganda (in Kazakhstan); Osh Oblast (in Kyrgyzstan); and Kulob (in Tajikistan). Participants were recruited on the following criteria:

- 18 years of age or older
- Injected drugs at least once in the last month
- Has injecting experience of at least 6 months
- Lived in project site (last 3 months)
- Not participated in another HIV survey/pre-testing in the last 2 months (or in the Project pilot study)
- Is not a peer educator/outreach worker/NGO staff working with PWID or on HIV related issues
- Voluntary consented to participate in the survey

The distribution of PWID participants according to nationality is shown in **Table 2**. Data collection occurred from April to June 2012. The study design was reviewed and approved by the PSI Research Ethical Board and the Ethical Committee of the Kazakhstan School of Public Health.

Table 2: Distribution of PWID participants by country

Country	PWID (N = 300)
Kazakhstan	100
Kyrgyzstan	100
Tajikistan	100

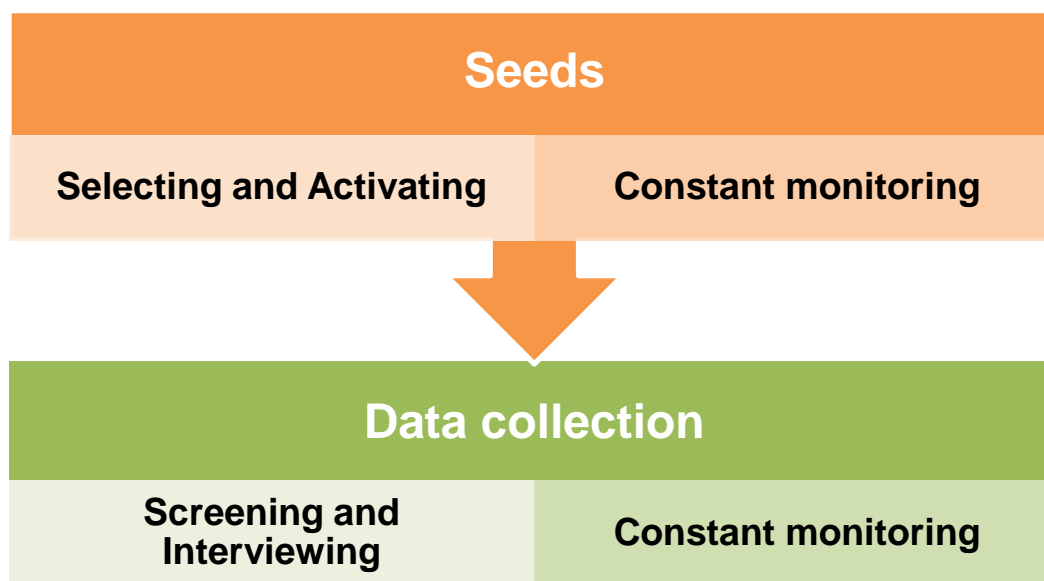
II. Sampling:

Respondents were recruited through respondent-driven sampling (RDS), a chain-referral procedure in which samples are selected from social networks of PWID. This sampling strategy is used to recruit hard-to-reach populations such as PWID. RDS begins with the recruitment of “seeds” (i.e., initial participants) who meet the eligibility criteria. These seeds are then asked to recruit two of their peers who are also PWID. RDS relies on the assumption that, given sufficiently long referral chains (i.e., three to six waves of respondents), the sample composition becomes stable or reaches “equilibrium,” resulting in a sample that has the characteristics of a probability sample.

For this study, two seeds each were recruited in Kazakhstan, Kyrgyzstan and Tajikistan. Initial seeds were identified by outreach workers from partner NGOs. These partner NGOs included “Umit” in Kazakhstan, “Plus Centre” in Kyrgyzstan, and “Anis” in Tajikistan. Outreach workers were given criteria for seed recruitment and asked to approach potential participants. Seed participants were chosen based on the strength of their network connections in the PWID community, their level of support for the study, and their willingness to recruit other participants. Ideally, seeds reflect key demographic characteristics of the target population (i.e., age, educational level, employment, and marital status).

The seeds approach potential participants and give them an overview of the study. If the individual expresses a desire to participate in the study, he or she is given a referral coupon to submit to the fieldwork team, which then administers the screening questionnaire and the informed consent protocol. A diagram of the RDS method is displayed in **Figure 1**.

Figure 1: The RDS collection process



III. Sample Size Calculations and Achieved Samples:

Sample size calculations are set at the maximum that are feasible to collect with the time/resources available. Results of the baseline TRaC study conducted in Year One of the Project (2010) showed some unexpectedly high levels in baseline indicators. Unrealistically large sample sizes would be required to show statistically significant changes in most of the performance monitoring plan (PMP) indicators from Year One to Year Three. It will not be possible to deliver these samples in this study. As a result, this survey will be a stand-alone study, for the purpose of providing interim estimates of key behavioral indicators.

A total sample of 300 respondents were drawn from across sample sites (in Kazakhstan, Kyrgyzstan and Tajikistan), taking 100 respondents from each sample site. A sample of 300 cases should provide aggregated estimates that are accurate within a maximum of +/-6%. Samples from each country will be accurate to within a maximum of +/-10%. These estimates assume point estimates of 50% with a 95% confidence level.

IV. Analysis Conducted:

Analysis of the data presented in this report was conducted using Respondent Driven Sampling Analysis Tool (RDSAT 6.0.1) and Statistical Package for the Social Sciences (SPSS) (Version 18). RDSAT was used to produce estimates of indicators in each of the three sample sites and aggregate by site weights. Adjusted proportions across the three sample sites were produced for each sample site. The aggregated estimates across the sample site locations were calculated with site-RDSAT estimates and site population weights. The

population size of PWID in Kazakhstan that was used for the weighting is based on official registration data of 2011. The population size of PWID in Kyrgyzstan and Tajikistan used for weighting is based on the data from NGOs: “Parents Against Drugs” and “Anis.”

Variables that significantly contribute to the explanation of variance in the major behaviors of interest (i.e., condom use and VCT utilization) were identified based on logistic regressions and analysis of variance (ANOVAs). Odds ratios measuring the strength of association for each significant variable are reported.

V. Study Limitations:

As with any survey requiring self-reporting, social desirability bias can be a limitation. In this survey, personal questions about drug use, initiation of non-injectors into injecting, their sexual activity, and other sensitive topics could all have been affected by this particular bias.

SURVEY FINDINGS

This section analyzes the survey results beginning with the basic demographic profile of the 2012 PWID respondents. The remaining data is divided into two subsections: **Monitoring** and **Segmentation Data**. In the **Monitoring Data** subsection, key findings relating to the behaviors of interest (injecting behavior and overdose experience, VCT utilization, TB testing and treatment, and HIV knowledge and condom use) are explored. The **Segmentation Data** will analyze OAM factors that are significantly associated with PWID behavioral outcomes. A summary of the findings and recommendations will be included at the end of the section.

I. Demographic Profile of PWID Respondents:

The demographic profile of PWID respondents in the present 2012 survey is shown in **Table 3**. The sample population was predominantly male (81.9%) and most participants were between the ages of 25 to 44. Most PWID participants had obtained some level of secondary or professional/technical education. Smaller percentages of respondents, ranging from 4.5% in Kyrgyzstan to 13.6% in Tajikistan had attained university level education. Most PWID respondents were recruited by a friend.

Table 3: Demographic characteristics of PWID respondents in Kazakhstan, Kyrgyzstan, and Tajikistan, 2012

	Karaganda, KZ N=100	Osh Oblast, KG N=100	Kulob, TJ N=100	Aggregation of 3 sites N=300
INDICATORS	% / Mean	% / Mean	% / Mean	% / Mean
Gender: Male	79.3% (98)	79.3% (98)	84.9% (98)	81.9% (294)
Age				
18-24	8.1% (98)	3.3% (98)	13.7% (98)	9.6% (294)
25-34	38.7% (98)	20.5% (98)	40.7% (98)	35.4% (294)
35-44	32.2% (98)	40.6% (98)	38.0% (98)	36.8% (294)
45-50	17.6% (98)	28.4% (98)	7.4% (98)	15.4% (294)
>50	3.4% (98)	7.2% (98)	0.2% (98)	2.8% (294)
Marital status				
Single	50.4% (98)	29.0% (98)	33.6% (98)	37.6% (294)
Married/Cohabiting	32.2% (98)	35.4% (98)	42.6% (98)	37.8% (294)
Widowed/divorced/separated	17.4% (98)	35.7% (98)	23.8% (98)	24.6% (294)
Education				
None	0.0% (98)	0.0% (98)	0.0% (98)	0.0% (294)
Primary	2.6% (98)	0.0% (98)	1.5% (98)	1.5% (294)
Secondary (up to 11th grade)	50.4% (98)	81.3% (98)	67.2% (98)	65.4% (294)
Technikum/ Professional technical school	36.6% (98)	13.7% (98)	17.2% (98)	22.3% (294)
College	0.8% (98)	0.6% (98)	0.5% (98)	0.6% (294)
University	9.7% (98)	4.5% (98)	13.6% (98)	10.3% (294)
Nationality				
Kazakh	16.6% (98)	0.0% (98)	0.0% (98)	5.0% (294)
Kyrgyz	0.0% (98)	13.8% (98)	0.0% (98)	3.2% (294)
Uzbek	0.0% (98)	57.3% (98)	3.1% (98)	14.7% (294)
Tajik	0.0% (98)	0.3% (98)	94.1% (98)	43.7% (294)
Russian	51.6% (98)	17.2% (98)	1.9% (98)	20.5% (294)
Others	31.8% (98)	11.4% (98)	0.9% (98)	12.7% (294)
Injecting duration (year)	4.4	5.8	4.3	4.7
Recruited by:				
friend or acquaintance	96.0% (98)	97.2% (98)	91.3% (98)	94.1% (294)
a significant other	0.0% (98)	0.0% (98)	6.1% (98)	2.8% (294)
relative / family member	4.0% (98)	2.3% (98)	2.5% (98)	2.9% (294)
stranger	0.0% (98)	0.0% (98)	0.0% (98)	0.0% (294)
Average number of PWIDs that respondents know and have seen in the last 2 months (network size)	13.0	25.2	10.1	14.5

II. Monitoring Data

Full Monitoring Tables can be found in **Annex A**.

A. Injecting Behavior and Overdose Experience

The first behaviors of interest relate to injecting and overdosing. The present section explores the sharing of needles and equipment among PWID (**Figure 2**), as well as gender differences in the sharing of equipment (**Figure 2a**). Behavioral OAM factors related to attitudes among PWID towards carrying needles/syringes is shown (**Figure 5**), which potentially furthers understanding reasons for sharing needles and equipment. The data goes on to describe whether the PWID respondents received help at their first injection and whether they themselves have helped someone else inject in the past 3 months (**Figure 3**), which allows for understanding the cyclical nature of drug use and how drug addiction begins. **Figures 4** and **4a** illustrate PWID who received drug addiction services and what type of drug addiction services were used (detoxification, rehabilitation, or substitution), respectively, for the purpose of describing whether these PWID are also receiving help for recovering from their drug addiction. Finally, **Figures 6** and **6a** explore the issue of overdose as well as the use of naloxone during overdose, respectively, which supplies more information on the role of naloxone during such life-threatening situations among PWID.

Figure 2 focuses on recent (whether at last injection or in the last month) needle and equipment sharing among PWID, where there appears to be some evidence of sharing of injecting equipment as opposed to sharing of needles. The sharing of needles at last injection (4% in Kazakhstan and 2% in Tajikistan) and in the last month (4% in Kazakhstan and 17% in Tajikistan) is relatively low, with the exception of Kyrgyzstan, which has relatively higher percentages of sharing needles (at last injection 16% and in the last month 25%). More PWID respondents, however, indicated sharing injected equipment (i.e., spoon, cup, cotton, filter, rinsing water) at their last injection (29% in Kazakhstan and 30% in Kyrgyzstan), with the exception of Tajikistan, which had only 2% of PWID respondents indicate having shared injecting equipment at last injection.

Figure 2: Sharing needles and injecting equipment among PWID, 2012

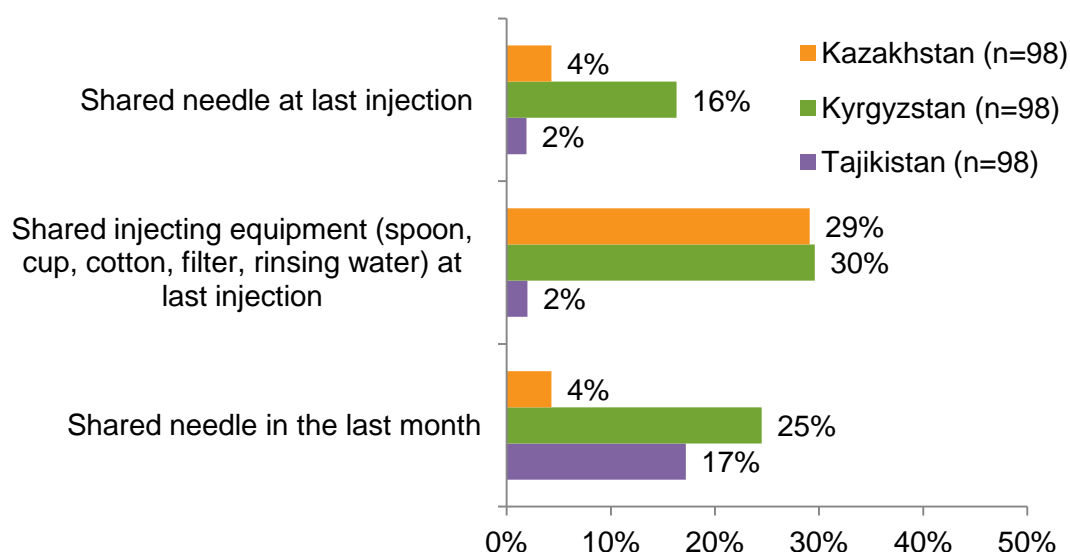


Figure 2a further explores equipment sharing by separating responses by gender. Among male PWID a relatively high percentage in both Kazakhstan and Kyrgyzstan reported sharing injecting equipment the last time they injected drugs (28% and 31%, respectively). Among female PWID the percentage who shared injecting equipment at last injection was slightly higher at 36% in Kazakhstan and 59% in Kyrgyzstan. It is important to note that the number of female PWID respondents (n=24 in Kazakhstan and n=18 in Kyrgyzstan) is considerably smaller than the number of male PWID respondents (n=72 and n=80). It should also be noted that few PWID in Tajikistan reported sharing injecting equipment at last injection (3% of males reported sharing and none of the 11 female respondents reported any sharing).

Figure 2a: PWID active in the last month who report sharing injecting equipment at last injection according to gender, 2012

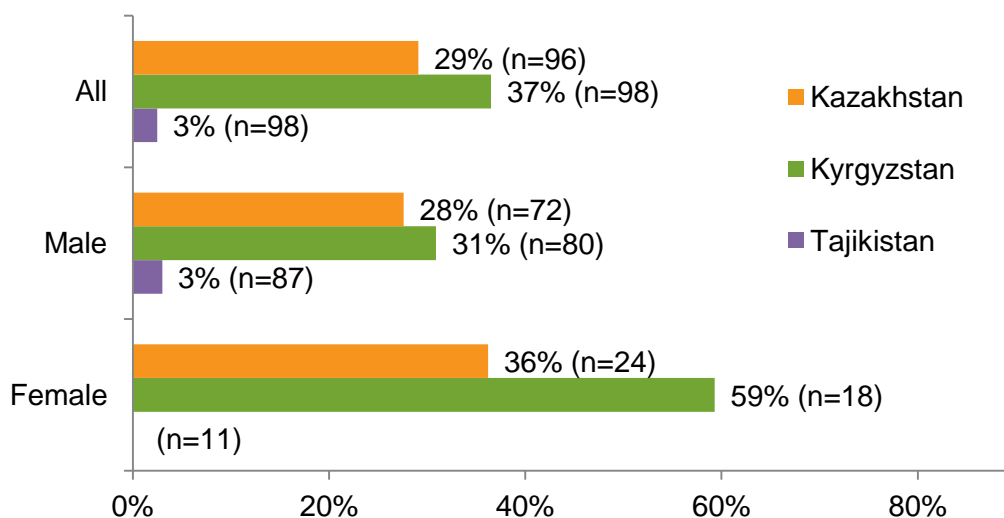
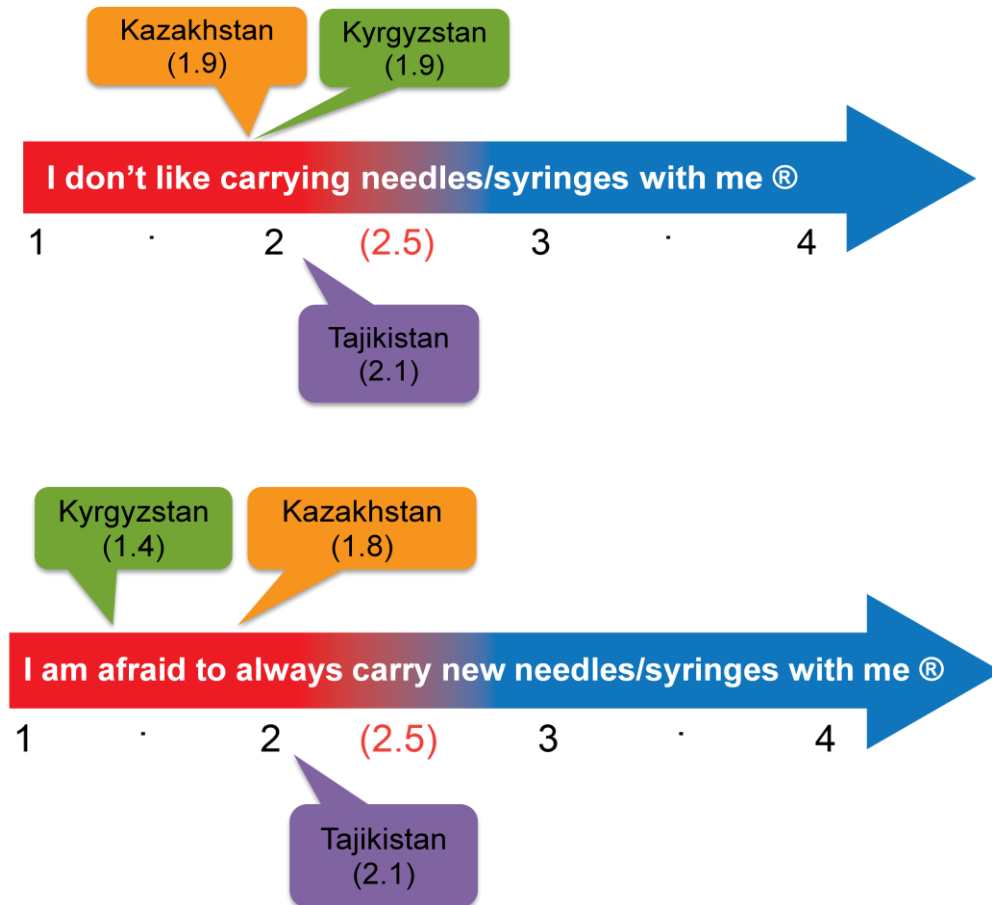


Figure 3 shows PWID attitudes towards carrying needles and syringes, as measured on a Likert scale.⁹ Respondents in all countries indicated that their attitudes towards carrying needles and syringes were negative (1.9 in Kazakhstan, 1.9 in Kyrgyzstan, and 2.1 in Tajikistan), and that they were afraid of carrying needles/syringes on their person (1.8 in Kazakhstan, 1.4 in Kyrgyzstan, and 2.1 in Tajikistan).

Figure 3: OAM factors related to attitudes towards carrying needles/syringes,¹⁰ (n=100 for each country), 2012



⁹ For the majority of OAM (Opportunity. Ability and Motivation) factors the scale of 1 through 4 is used. unless otherwise noted. In this scale: 1 is completely disagree. 2 – disagree. 3 – agree. and 4 – completely agree. Mean scores are presented. A mean score of below 2.5 indicates that the majority disagrees with the statement and a mean score of higher than 2.5 indicates that the majority agrees. A mean score of 2.5 indicates that overall respondents neither agree nor disagree with the statement.

¹⁰ ® - Reverse-coded items. Scores for these items have been reversed so that a high score above 2.5 = positive/desired response. Wording of these items has not been reversed and they read as they were presented to the respondents. For knowledge-based items, the scores for items have been reversed where the item is factually incorrect so the % presented is those who knew the correct answer.

Figure 4 shows that a substantial percentage of PWID received help when they injected drugs for the first time (86% in Kazakhstan, 85% in Kyrgyzstan, and 61% in Tajikistan). The percentage of respondents who reported having helped other PWID inject for the first time was greatest in Tajikistan at 31%.

Figure 4: Receiving and giving help for first injections among PWID, 2012

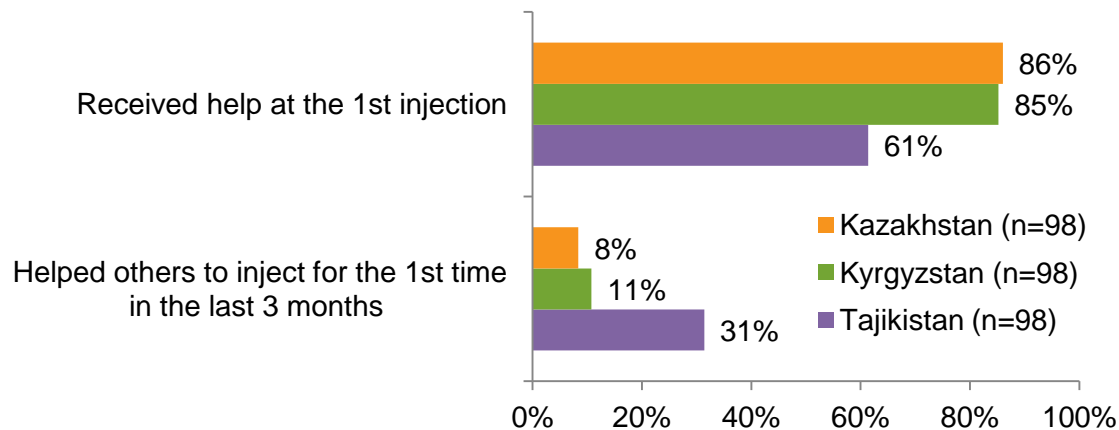


Figure 5 shows the number of PWID respondents who received drug addiction treatment services. Most PWID in Kyrgyzstan indicated having received drug treatment addiction services (77%), while only 17% of PWID respondents in Kazakhstan and 46% of PWID respondents in Tajikistan indicated receiving drug addiction treatment services.

Figure 5: PWID who received drug addiction treatment services, 2012

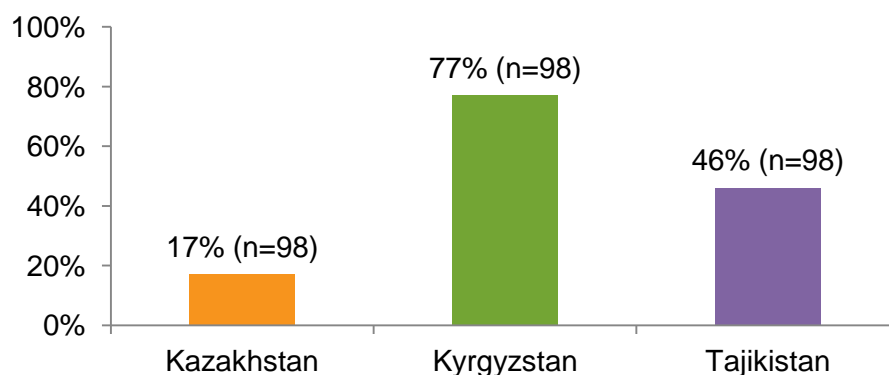


Figure 5a next shows which drug addiction treatment services were used by PWID. In Kyrgyzstan, most PWID go through rehabilitation (53%), followed by detoxification (18%). In Kazakhstan, most PWID either went through detoxification (12%) or rehabilitation (8%). In Tajikistan the use of drug addiction treatment services is dispersed a little more evenly, where 16% indicated having gone through substitution therapy, 15% through rehabilitation, and 13% through detoxification.

Figure 5a: Drug addiction treatment services PWID used, 2012

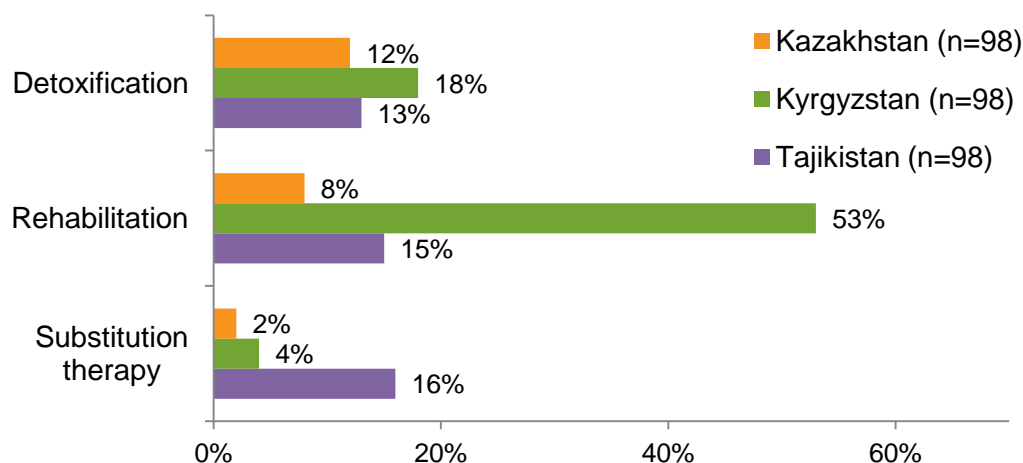


Figure 6 shows the results related PWID's experiences of overdose. In Kazakhstan, 14% suffered from an overdose in the last year, and 31% witnessed someone suffer from an overdose in the last year. In Tajikistan these numbers are slightly higher, where 24% of PWID suffered from an overdose in the last year, and 43% witnessed someone suffer from an overdose in the last year. The numbers are highest in Kyrgyzstan, where 28% indicated that they had suffered from an overdose in the last year, and about half of the respondents (51%) indicated having witnessed someone suffer from an overdose in the last year.

Figure 6: Overdose experience among PWID, 2012

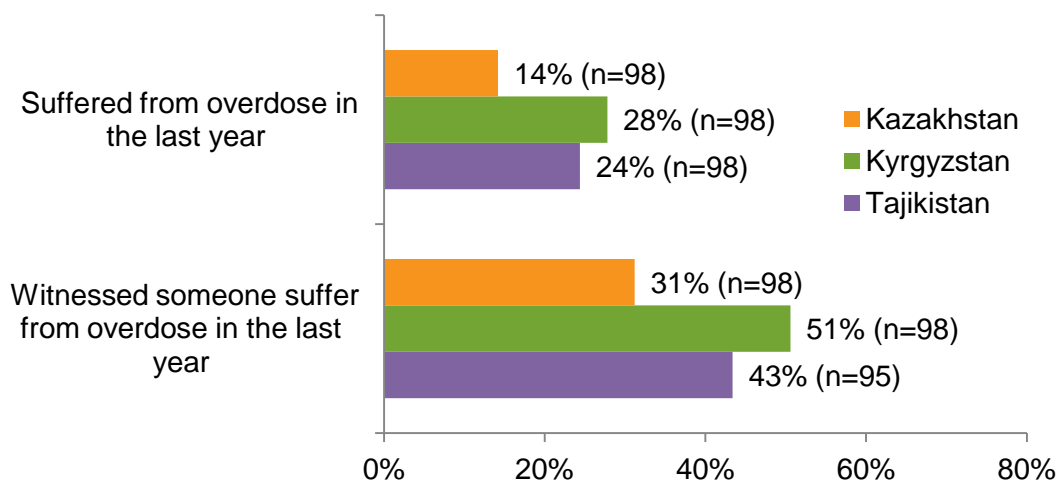
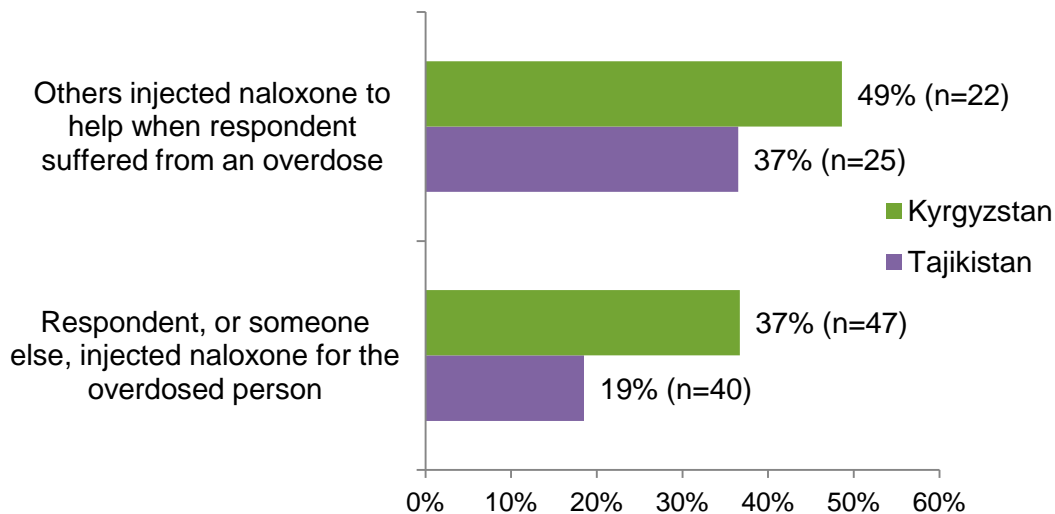


Figure 6a continues to show the findings of overdose among PWID but in relation to the use of naloxone. Outside of emergency services and one, small-scale research project, naloxone is not currently available to PWID in Kazakhstan. Therefore, no PWID respondents in Kazakhstan indicated naloxone being used on them when they overdosed, and no respondents indicated using naloxone or seeing someone else use it on a person experiencing an overdose. In Kyrgyzstan and Tajikistan, however, PWID indicated that naloxone was used

on them when they experienced an overdose (49% in Kyrgyzstan and 37% in Tajikistan), and naloxone was used on another overdosed person who they witnessed overdose or helped themselves (37% in Kyrgyzstan and 19% in Tajikistan).

Figure 6a: Use of naloxone during overdose experience among PWID, 2012



B. Voluntary Counseling and Testing (VCT) Utilization

The next behavior of interest is VCT utilization.¹¹ **Figures 7** and **7a** examine PWID's experience regarding HIV testing and counseling for the purpose of understanding whether PWID are utilizing these services. **Figure 8** then examines OAM behavioral factors related to social support and beliefs towards VCT utilization, which helps illustrate why some PWID may or may not be testing.

The results for PWID who tested for HIV and received their results in the last 12 months are shown in **Figure 7**. In Kyrgyzstan, a large percentage indicate having tested for HIV and received the results in the last 12 months (85%), but in Kazakhstan and Tajikistan these percentages are relatively low (51% in Kazakhstan, and 46% in Tajikistan).

¹¹ The indicator for VCT utilization is having been tested for HIV and received test results in the last 12 months.

Figure 7: Tested for HIV and received results in the last 12 months, 2012

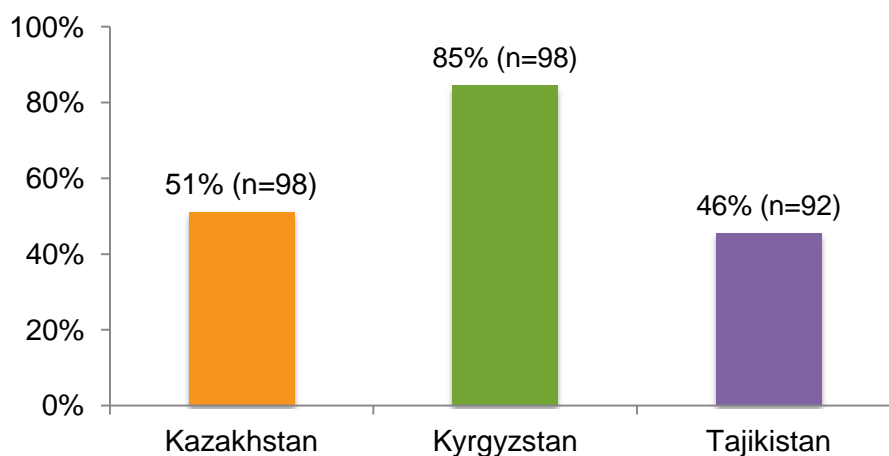


Figure 7a shows the results related to PWID who received counseling at the place of their last test. Almost all respondents in Kyrgyzstan indicated having received counseling (99%). In Kazakhstan and Kyrgyzstan, not all respondents indicated having received counseling (61% and 67%, respectively).

Figure 7a: Received counseling at the places of the last test, 2012

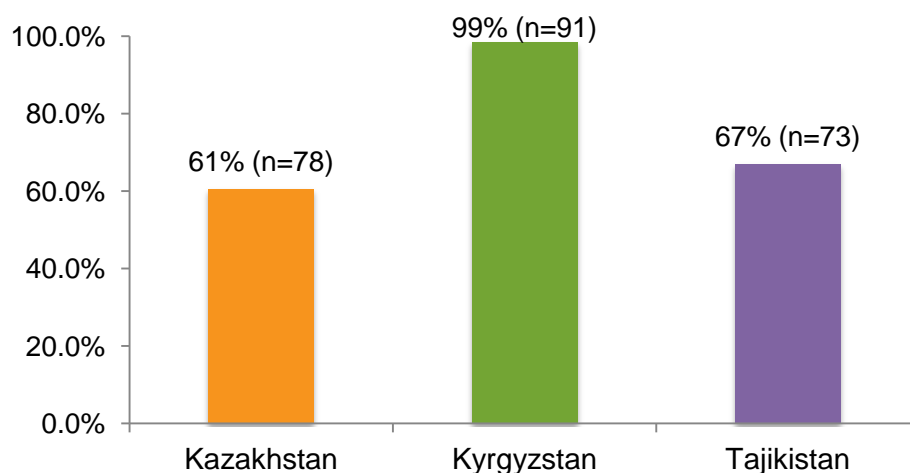
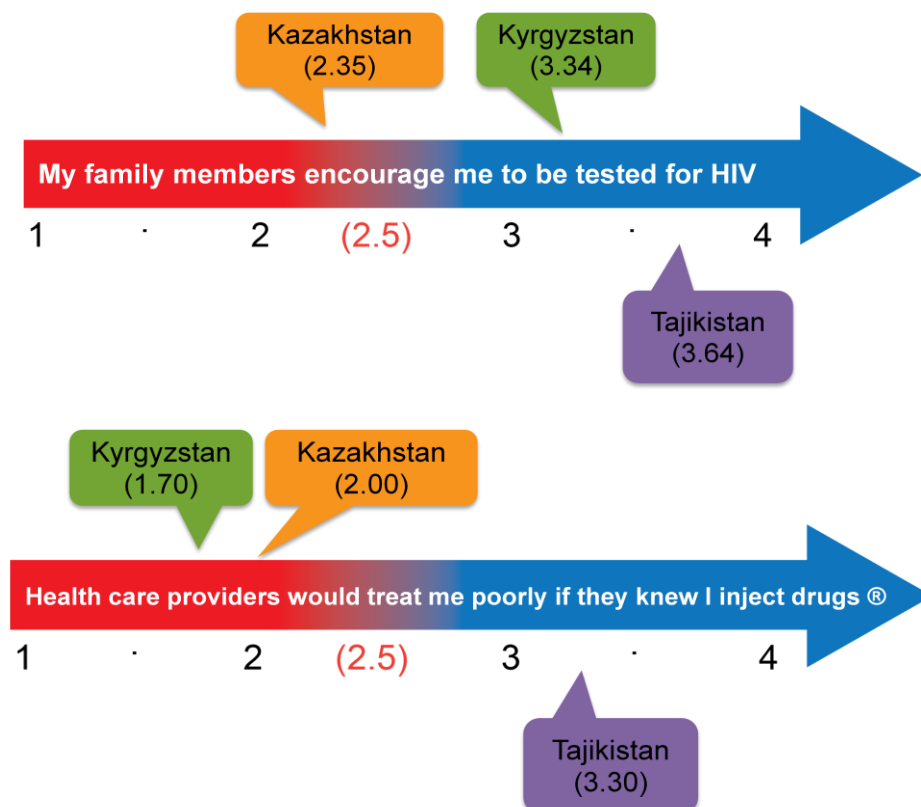


Figure 8 illustrates social support and beliefs toward VCT utilization among PWID, as measured on a Likert scale. Respondents in Kyrgyzstan and Tajikistan reported that they receive support from their family members to be tested for HIV (3.34 and 3.64, respectively). Respondents in Kazakhstan, however, reported they do not receive support from their family members to seek out HIV testing (2.35). In Kazakhstan and Kyrgyzstan respondents feel that health care providers would treat them poorly if they knew that the respondent injects drugs. This belief was not held by PWID respondents in Tajikistan.

Figure 8: OAM factors of social support and beliefs related to VCT utilization, (n=100 for each country), 2012



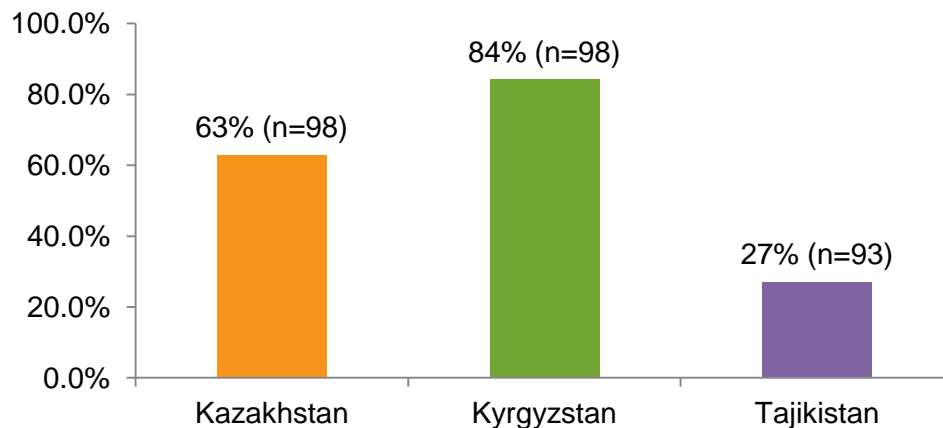
C. TB Testing and Treatment

The third behavior of interest is TB testing and treatment.¹² The present section first examines TB testing, where **Figure 9** shows results related to PWID who tested for TB and received their results in the last 12 months. **Figures 10a-c** examine opinions according to PWID respondents from each country (Kazakhstan, Kyrgyzstan, and Tajikistan) as to why TB patients sometimes stop taking their treatment drugs before fully completing treatment. Given that failing to complete TB treatment can lead to MDR-TB, understanding common misconceptions surrounding TB treatment is critical to address this population's vulnerability to TB. The section then goes on to examine knowledge of TB (symptoms and decreasing its transmission) in **Figure 11**, and the data in **Figure 11a** relates to specific knowledge of TB transmission. Lastly, in **Figure 12**, behavioral OAM factors that relate to social support and beliefs of TB treatment among PWID are presented, which further elaborate on difficulties that PWID experience in regards to receiving TB treatment.

¹² The indicator for TB testing is being tested for TB and receiving results in the last 12 months.

Regarding being tested for TB, **Figure 9** shows that a majority of PWID respondents in Kyrgyzstan (84%) have been tested for TB and received results in the last 12 months. Smaller percentages of PWID reported being tested for TB and receiving the results in Kazakhstan and Tajikistan at 63% and 27% respectively.

Figure 9: Tested for TB and received results in the last 12 months, 2012



Figures 10a-c illustrate commonly held beliefs about why TB patients fail to complete their treatment courses, separated by country. Most PWID respondents stated that TB patients will stop taking their treatment drugs when they feel better (29% in Kazakhstan, 80% in Kyrgyzstan, 29% in Tajikistan). A smaller percentage of PWID indicated drug side effects may impact a TB patient's decision to stop taking treatment (10% in Kazakhstan, 9% in Kyrgyzstan, and 10% in Tajikistan). In Kyrgyzstan, respondents also felt that TB patients do not fully complete the treatment due to lack of money (27%) and the health professional's bad attitude (30%).

Figure 10a: Opinions among PWID in Kazakhstan (n=98) regarding why TB patients sometimes stop taking treatment drugs before completing their treatment course, 2012

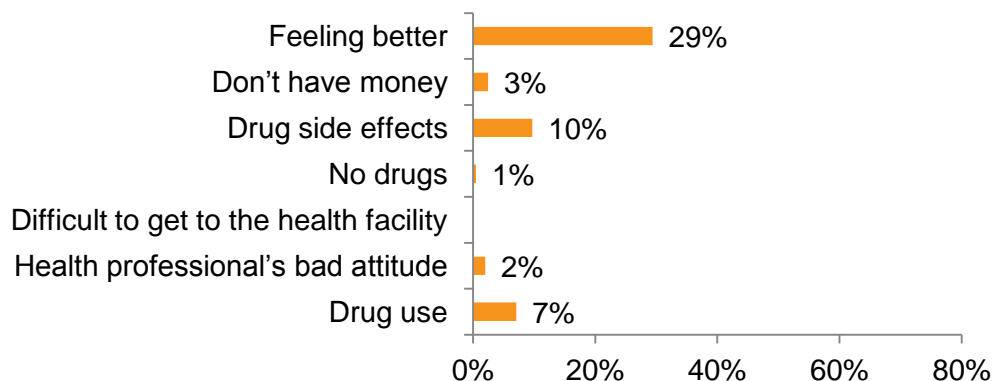
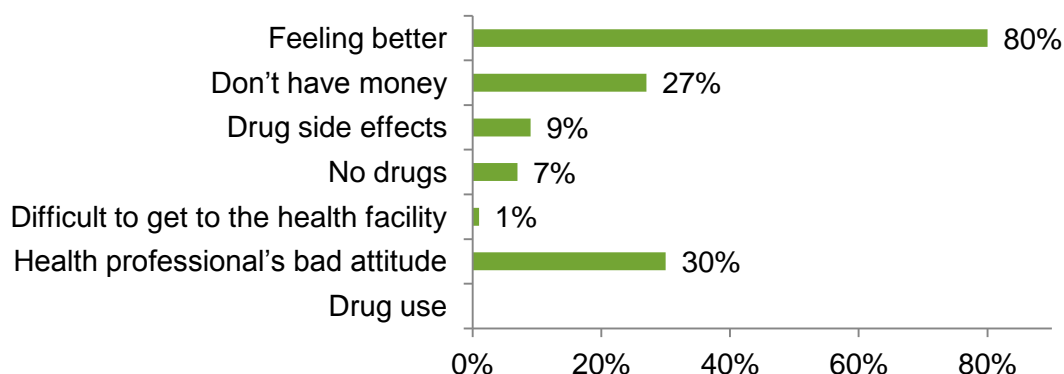


Figure 10b: Opinions among PWID in Kyrgyzstan (n=98) on why TB patients sometimes stop taking treatment drugs before completing their treatment course, 2012



The opinions of PWID in Tajikistan on why TB patients sometimes stop taking drugs before completing their treatment course, as shown in **Figure 10c**, are that TB patients start to feel better (29%) and are due to drug side effects (10%).

Figure 10c: Opinions among PWID in Tajikistan (n=98) on why TB patients sometimes stop taking treatment drugs before completing their treatment course, 2012

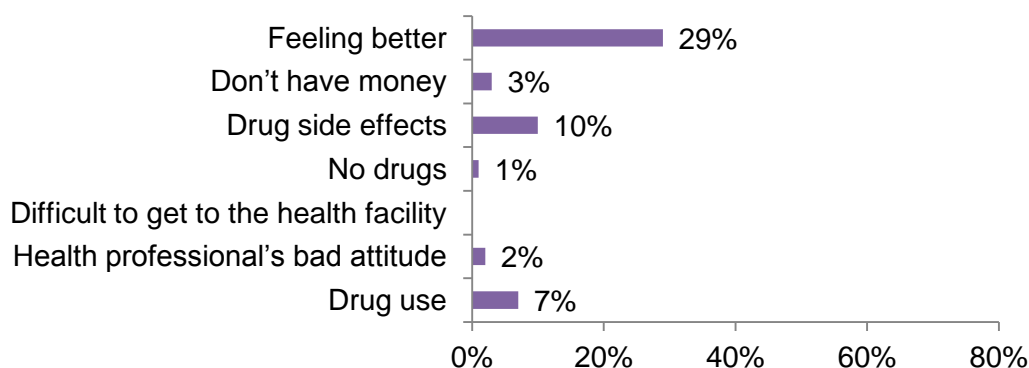


Figure 11 shows TB knowledge among PWID. In Kyrgyzstan and Tajikistan, a majority of PWID know 3 or more symptoms of TB (73% and 71%, respectively). Knowledge of TB transmission was considerably lower, particularly in Kazakhstan and Kyrgyzstan (10% and 23%, respectively). In Tajikistan, only around half of the respondents knew 3 or more knowledge items related to decreasing TB transmission (55%).

Figure 11: TB Knowledge among PWID, 2012

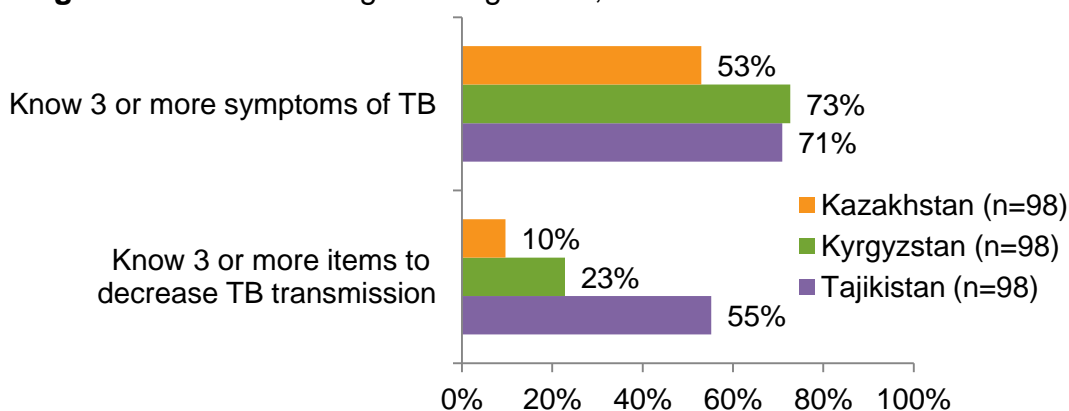


Figure 11a shows the percentages of PWID who correctly knew specific knowledge indicators related to TB transmission. Most respondents knew that TB is curable with the right treatment. Not all respondents, however, knew that you cannot get TB by shaking hands with someone. In Tajikistan, in particular, almost half of the respondents did not know that they can get TB by drinking raw milk from infected animals (54% knew that this was true). There was a percentage of PWID in Tajikistan who also did not know that stopping treatment before completion causes the disease to become resistant to drugs (70% answered the question correctly).

Figure 11a: Knowledge among PWID on items related to TB transmission and treatment, 2012

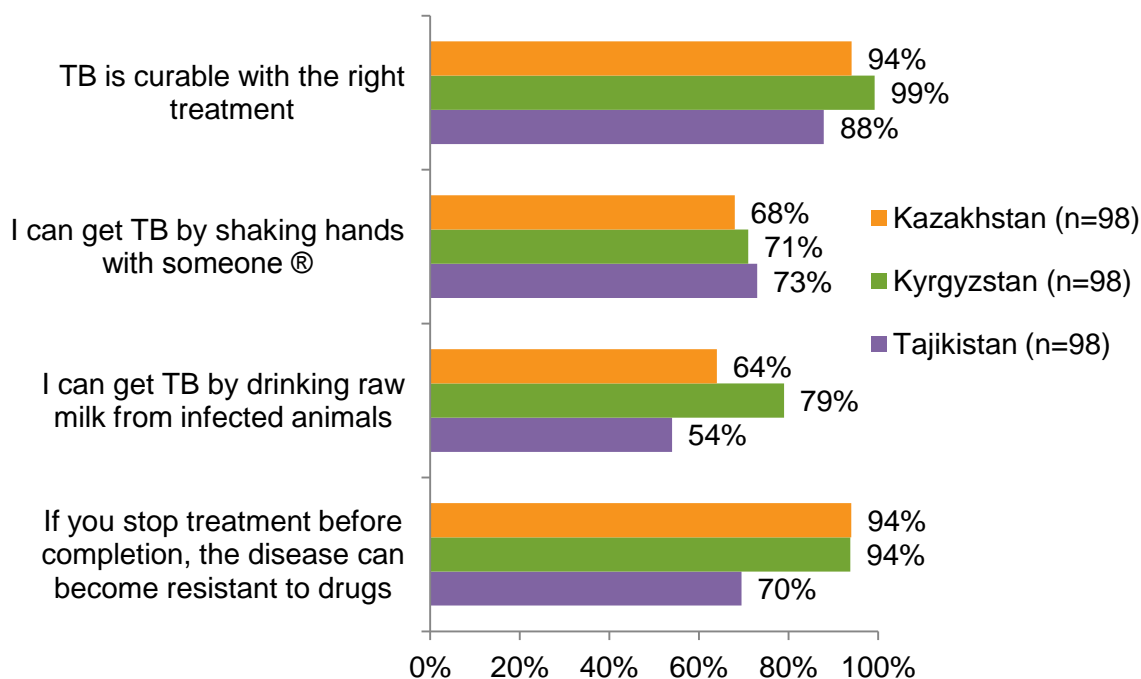
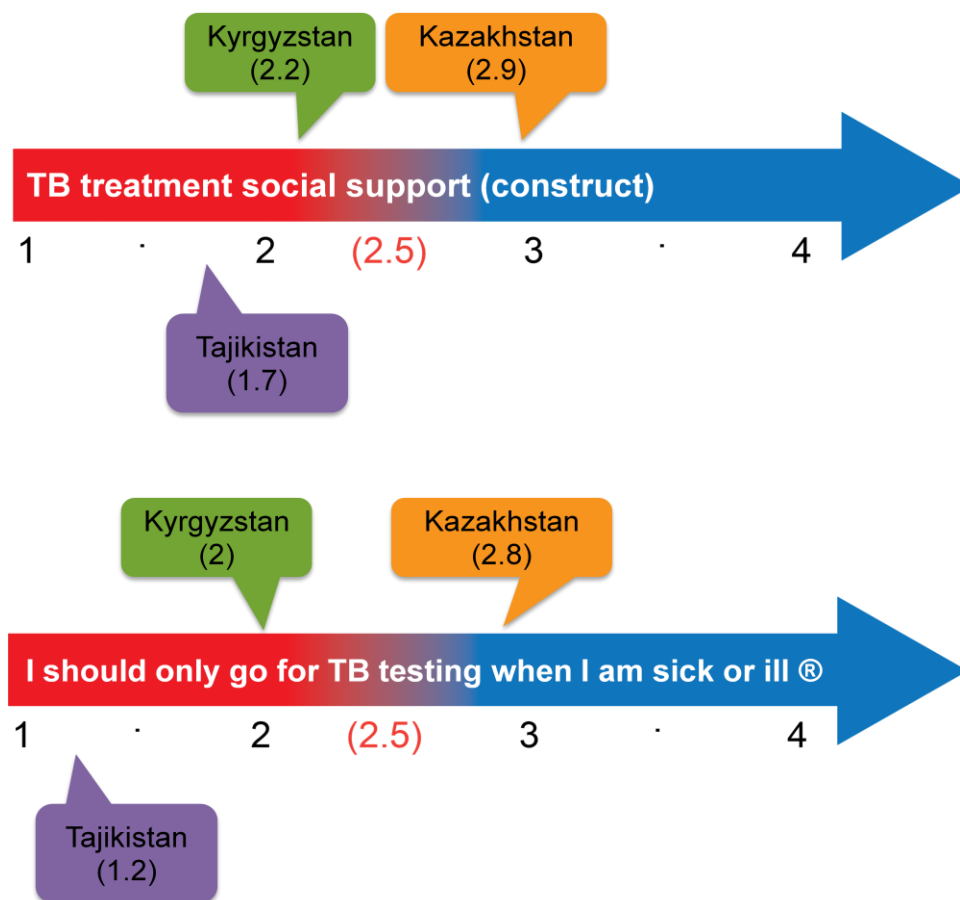


Figure 12 shows the perception among PWID of social support for TB treatment as measured on a Likert scale. In Kyrgyzstan and Tajikistan, PWID agreed that they do not receive social support (from friends, family, and partners) for TB treatment. These PWID respondents also feel that they may lose their friends if those friends know that they are on TB treatment. PWID in Kyrgyzstan and Tajikistan also feel that being on TB treatment could damage their relationship with their family. These PWID feel that they should only go for TB testing if they are sick or ill, and this negative sentiment is particularly strong in Tajikistan (1.2). Respondents from all countries feel that they could lose their job if they are on TB treatment.

Figure 12: OAM factors of social support and beliefs of TB treatment, 2012



D. Consistent Condom Use

The final behavior of interest understood through this survey is consistent condom use¹³ among PWID. This section examines overall use of condoms in **Figure 13**, as well as overall consistent use of condoms as separated by country in **Figures 13a-c**. Findings on consistent condom use depending on the partner type¹⁴ are then shown in **Figures 14a-c**, since it is possible that PWID may be using condoms differently depending on the type of partner.

Figure 13 shows several key indicators of consistent condom use among PWID respondents. A relatively low percentage (76%) of PWID respondents reported having ever used a condom. Just over half (52%) reported using a condom at last sexual intercourse and only half used the condom from the beginning of intercourse until the end during last sex.

Figure 13: Condom use among PWID, all countries, 2012

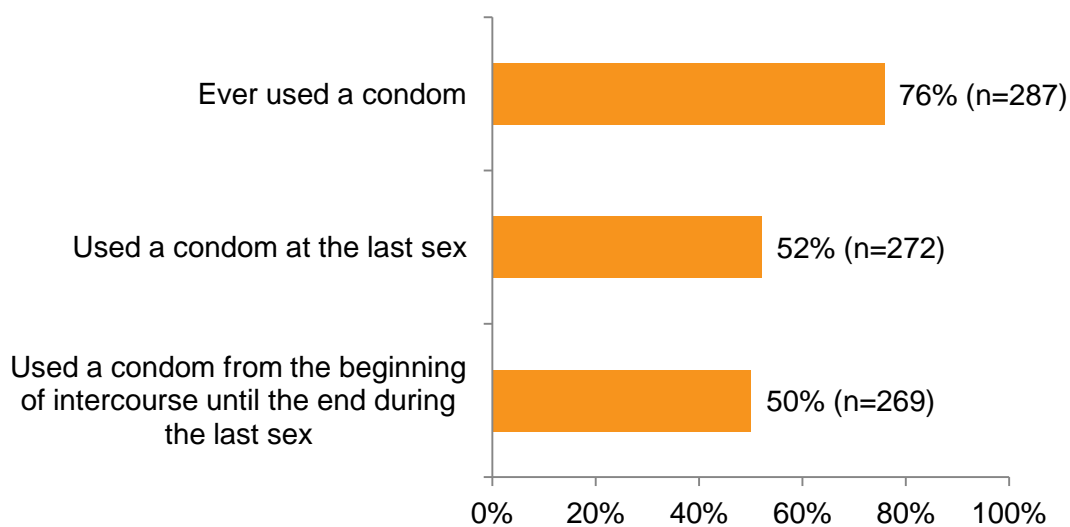
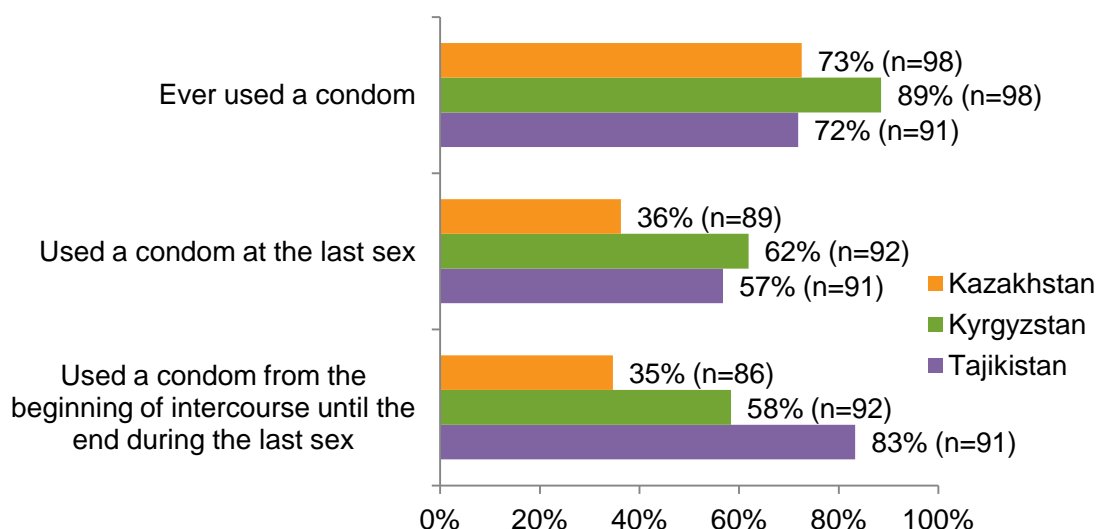


Figure 13a shows the results according to country, where use of condom at last sex and the use of a condom from beginning of intercourse until the end is particularly low in Kazakhstan (36% and 35%, respectively.) In all countries, the results for condom use are relatively low.

¹³ The indicator for consistent condom use is the use of a condom at last sexual intercourse.

¹⁴ There are three types of sexual partners in this survey. “Regular partners” are defined as cohabiting or non-cohabiting sexual partners and someone who is considered to be a main sexual partner. A “casual partner” is someone with whom the individual has had sex but with whom they did not feel committed or did not know very well. They did not pay the casual partner and nor did these partners pay the individual to have sex. A “commercial partner” is defined as someone with whom the individual has paid money or other items for sex.

Figure 13a: Consistent condom use among PWID, 2012



Figures 14a-c examine condom use among PWID according to different partner types. The results show that condom use among PWID depends on the partner, where consistent condom use is lowest among regular partners (27% in Kazakhstan, 44% in Kyrgyzstan, and 35% in Tajikistan). While consistent condom use with casual partners is relatively high in Kyrgyzstan (85%), it is still relatively low in Kazakhstan and Tajikistan (57% and 42%, respectively). Fewer respondents indicated having commercial partners (n=8 in Kazakhstan, n=46 in Kyrgyzstan, and n=25 in Tajikistan), but condom use with these partners is lowest in Kazakhstan and Tajikistan (37% and 50% respectively). In Kyrgyzstan, most respondents indicated using a condom with commercial partners (88%).

Figure 14a: Always used condoms when having sex with regular partner(s) in the last 12 months, all countries

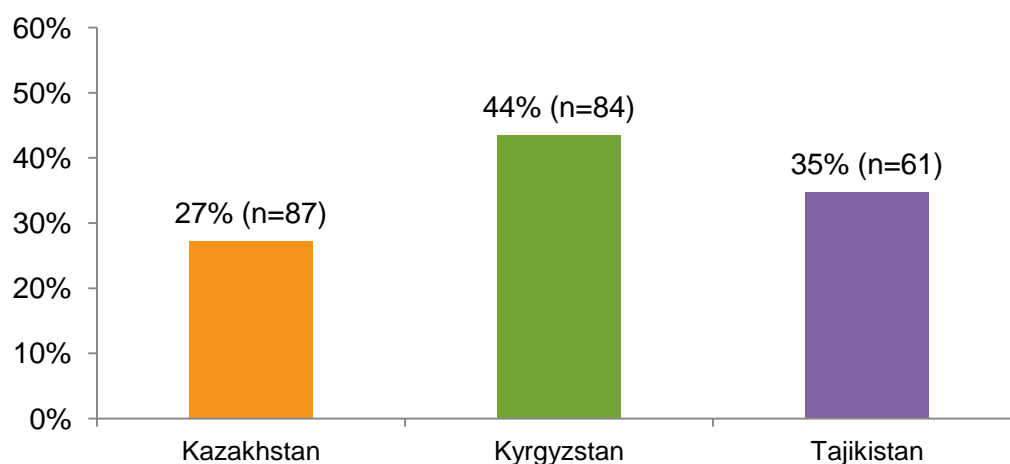


Figure 14b: Always used condoms when having sex with casual partner(s) in the last 12 months, all countries

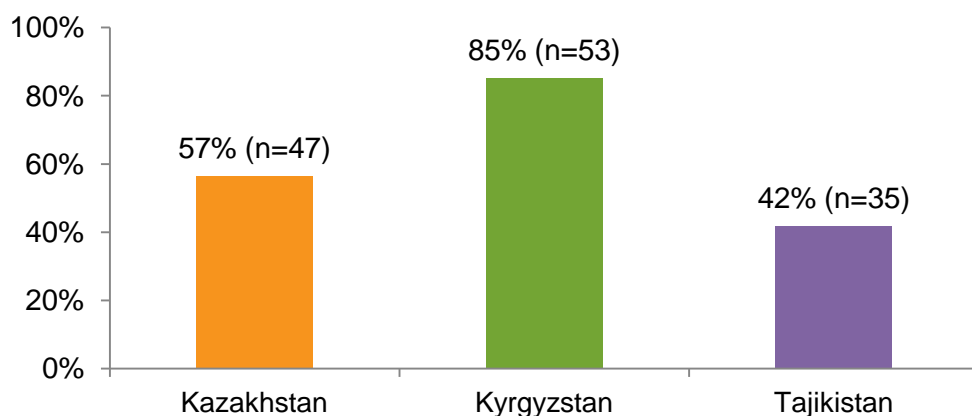
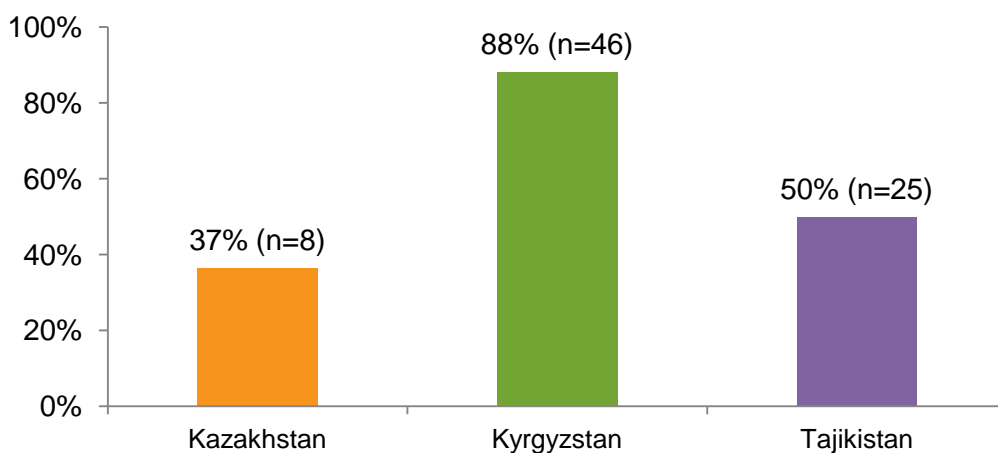


Figure 14c: Always used condoms when having sex with commercial partner(s) in the last 12 months, all countries



The results for HIV-related knowledge¹⁵ among PWID can be seen in **Figure 15**. Knowledge of HIV transmission routes is relatively high in all countries (84% in Kazakhstan, 100% in Kyrgyzstan, and 85% in Tajikistan), but there are still some HIV-related misperceptions among PWID.

¹⁵ "High" knowledge is defined as PWID knowing 5-6 items related to HIV transmission routes.

Figure 15: Knowledge of HIV transmission routes

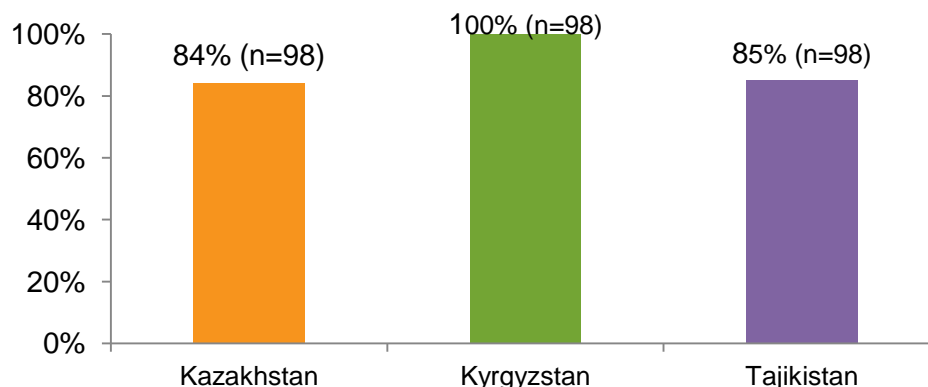
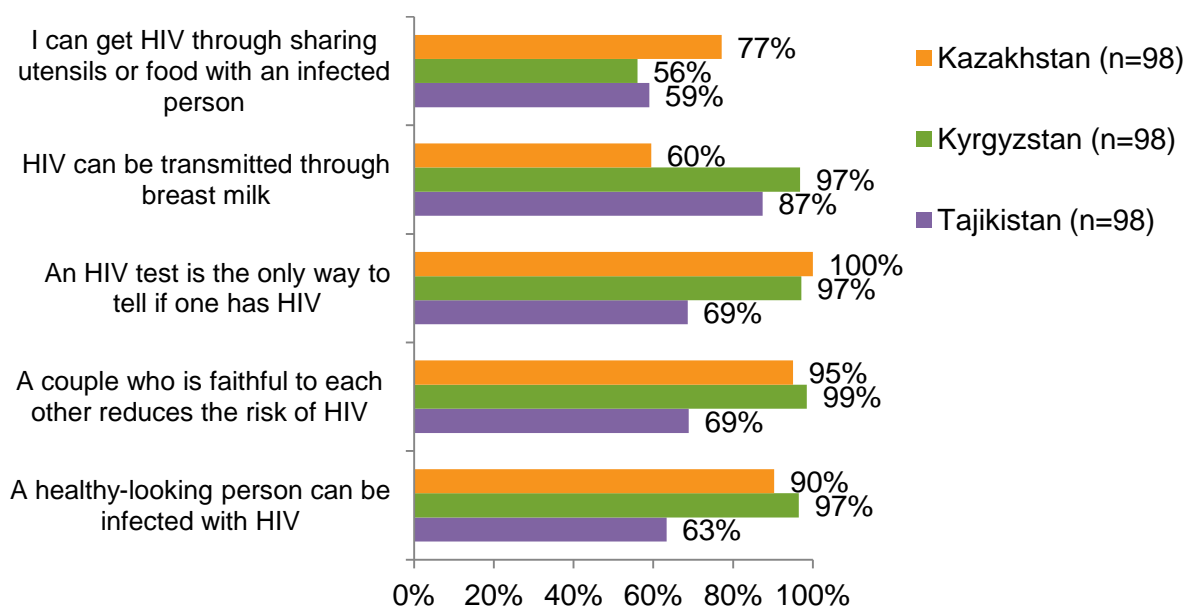


Figure 15a shows specific knowledge items related to HIV transmission routes.¹⁶ Large percentages of PWID respondents in all countries incorrectly believed HIV can be transmitted through sharing utensils or food (77% in Kazakhstan, 56% in Kyrgyzstan, and 59% in Tajikistan). Most respondents in Kyrgyzstan and Tajikistan (97% and 87% respectively) knew HIV can be transmitted through breast milk, while only 60% of PWID surveyed in Kazakhstan knew this fact. Tajikistan rated below the other two countries on three other indicators. For example, only 69% of respondents in Tajikistan knew that an HIV test is the only way to tell if someone has HIV. Similarly, only 69% of PWID respondents knew that a couple who is faithful to each other reduces their risk of HIV, and only 63% knew that even a healthy-looking person can be infected with HIV.

Figure 15a: Knowledge of HIV transmission routes, 2012



¹⁶ Refer to appendix A for the full list of knowledge questions and results related to HIV transmission routes

III. Segmentation Data

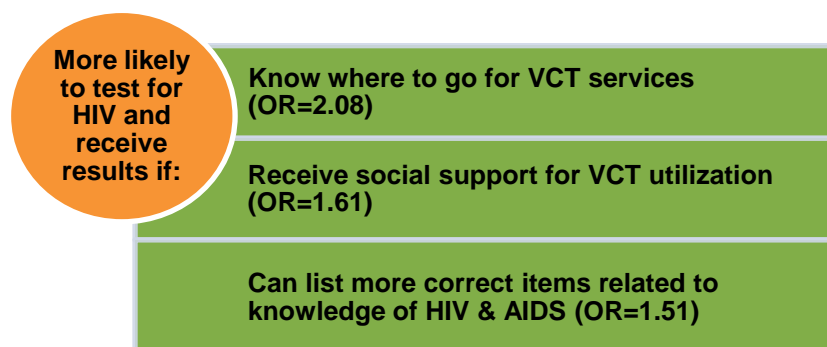
This section will examine significant OAM factors that are related to PWID behavioral outcomes. As with the Monitoring Data, this subsection will first examine significant OAM factors regarding VCT utilization, and then OAM factors related to TB testing will be examined. Such an analysis involves comparing the attitudes and perceptions towards HIV testing and TB testing between “behavers” (i.e., those who practice the behavior) with “non-behavers” (i.e., those who do not practice the behavior). This approach helps highlight motivating factors that may determine optimal behavioral outcomes.

Full segmentation tables can be found in **Annex B**.

A. VCT Utilization

The OAM factors that significantly contributed to testing for HIV and receiving results are shown in **Figure 17**. These factors include knowing where to go for VCT services (OR=2.08), receiving social support for VCT (OR=1.61), and having a high knowledge of HIV & AIDS (OR=1.51).

Figure 17: Factors of testing for HIV and receiving results among PWID in all countries, 2012



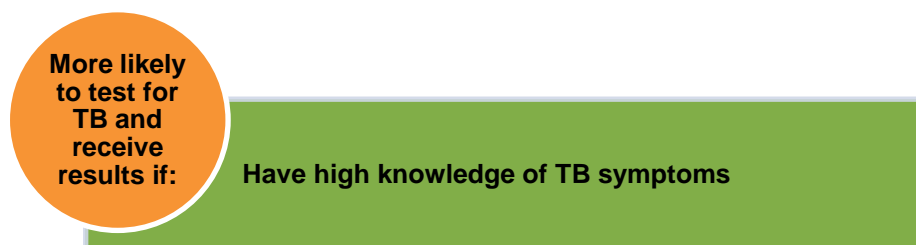
B. TB Testing

Finally, having high knowledge of TB symptoms (able to list a high number) was related to testing for TB and receiving results among PWID in all countries as (OR=1.32). Also, the more years the person has been injecting drugs (OR=1.14), the more likely they are to test for TB and receive their results.¹⁷ PWID's nationality was also related to how likely they were to test for TB and receive their results.¹⁸

¹⁷ Data can be found in Appendix B.

¹⁸ Data can be found in Appendix B.

Figure 18: Factors of TB testing use among PWID in all countries, 2012



CONCLUSION AND PROGRAM RECOMMENDATIONS

The following are programmatic recommendations, grounded on the monitoring data and segmentation analyses, and created through the collaborative efforts of the research and program staff, as well as the contribution of external stakeholders.

✚ Tailor different services to PWID with particular characteristics.

1. Most PWID are males (aged 25-44), but a small percentage are female (**Table 3**). Gender issues should be considered when developing activities and sessions. While it is important for programs to keep in mind that the majority of PWID are males, programs also need to continue include PWID who are female and, in doing so, ensure that they address any additional needs female PWID may have. Programs can address these additional needs by continuing to provide female escorts for HIV or TB testing, as well as providing women-only support groups and services.
2. Create information that is geared to the educational level of PWID and that is also in a language that they will be able to understand. Most PWID have a secondary or technical education (**Table 3**). Programs should continue to have information with messages that are clear and simple, and they should also make sure that this information is presented in an eye-catching manner. Given that the PWID respondents in each country are composed of many nationalities (**Table 3**), programs should continue to consider the language that the information is presented when creating informational materials: about half of the PWID respondents in Kyrgyzstan indicated that they are Russian, about half of the PWID respondents in Kyrgyzstan are Uzbek, and most respondents in Tajikistan indicated that they are Tajik.
3. On average, PWID respondents from all three countries have about 15 other PWID in their social networks. Programs should promote peer-driven interventions among PWID to ensure that other PWID in their social networks are included in prevention programming. Doing so will allow programs to build a stronger social support system for the purpose of

promoting VCT utilization, TB testing, condom use, and the use of sterile needles, syringes, and injecting equipment.

:: Sharing needles

1. *Focus on not just the sharing of needles, but the sharing of equipment.* While there is some evidence of needle sharing among PWID, there is significant evidence of equipment sharing (**Figure 2**). Despite the fact that there are generally fewer females who inject drugs, equipment sharing is especially prevalent among women (**Figure 2a**). Key messages should promote awareness that sharing injecting equipment could lead to contracting HIV or other diseases and that equipment can still come in contact with infected blood and other body fluids.
2. *Facilitate access to clean needles and syringes and encourage PWID to carry clean needles and syringes with them at all times.* It is possible that PWID are continuing to share needles (**Figure 2**) because they are not comfortable carrying them at all times. Attitudes among PWID towards carrying needles are negative, and PWID indicated that they are also afraid to carry them (**Figure 3**); these findings are most likely due to fear of harassment and stigmatization from the police.

Programs should continue to focus on training police to not discriminate against PWID, especially if they are stopped and found to have clean syringes on their person. Key messages towards the police should include that PWID are not encouraging drug use by carrying clean needles/syringes, but rather are restricting the spread of life-threatening diseases. At the same time, however, PWID should be trained on their personal rights (i.e., law-related seminars), as well as what they should do if they find themselves in a situation where they are being discriminated against (i.e., for having clean syringes with them). PWID should know that carrying needles and syringes is not illegal, and police who harass or persecute PWID for this are in violation of the law. Programs should establish and define what support they can offer to PWID during these situations, and should also ensure that additional support services for this are included into the referral system.

:: Drug use

1. *Continue to work to break the cycle of drug use.* Most PWID indicated that they received help at their first injection (**Figure 4**). While not many respondents reported helping others with their first injection, about a third of PWID respondents in Tajikistan indicated that they have helped others with their first injection (**Figure 4**). There is a need to continue reinforcing the idea that it is important to not encourage drug use in others. Key messages to promote among PWID (through informational sessions and

brochures) should be to not inject while in the presence of non-injectors, not to talk about or discuss their perceived benefits of injecting while in front of other drug users (particularly non-injectors), and to not to help others inject for the first time.

2. *Drug addiction treatment services.* Many PWID indicated not having received drug treatment services, and this indicator was especially low in Kazakhstan (**Figure 5**). It is important to understand why this is the case, and to encourage PWID to seek help and treatment. It is possible that many do not seek drug treatment services due to obstacles, such as limited availability of these services, lack of anonymity when using these services (i.e., registration as a PWID), or financial restrictions as most drug treatment services are not free. While it is more difficult for programs to directly influence the establishment of new treatment centers, they can still work to continue referring PWID to available treatment services. During round tables and events that may already include local government officials or organizations, it would be helpful for programs to highlight the necessity for drug treatment services as a way to bring attention to this issue.
3. *Overdose experiences among PWID and the use of naloxone.* Some PWID respondents indicated experiencing overdose themselves in the last year, and even more have witnessed cases of overdose during this time (**Figure 6**). The present study's findings also reveal the importance of naloxone, which was used by PWID in Kyrgyzstan and Tajikistan (**Figure 6a**). Programs, especially in Kazakhstan, should promote the use of naloxone by facilitating distribution of naloxone to PWID while working to understand the most efficient and best means of distributing (i.e. directly or through pharmacies).

:: VCT Utilization

1. *Reinforce the importance of being tested for HIV and receiving results by improving access to VCT services.* With the exception of Kyrgyzstan, many PWID respondents didn't indicate having been tested for HIV and receiving their results within the last 12 months (**Figure 7**). At the same time, the results of the present study show that PWID who know where to receive VCT services are more likely to be tested for HIV (**Figure 17**). By continuing to promote access to these testing services, more PWID should be able to get tested and receive their results. The percentage of PWID who received counseling at their testing location was low in both Kazakhstan and Tajikistan (**Figure 7a**). It is necessary that PWID also receive counseling from health specialists, so programs should continue to work with these specialists to ensure that they perform quality counseling for PWID at their testing locations.

2. *Decrease stigmatization of PWID who test for HIV among family, friends, and health specialists.* PWID who receive greater social support with regards to VCT utilization are more likely to be tested for HIV (**Figure 17**). Programs can work to decrease this stigma by incorporating family members and friends into programs (i.e., establish “support groups” that include relatives, friends, and/or sexual partners). Promoting couples testing among PWID would also increase PWID’s perceived sense of social support towards HIV testing. This is especially the case in Kazakhstan, where PWID indicated that they do not receive social support from family members with regards to VCT utilization (**Figure 8**). Programs should also focus on decreasing discrimination of PWID among health specialists. In Kazakhstan and Kyrgyzstan, PWID feel that health care providers will treat them poorly if they find out that they use drugs (**Figure 8**). Key messages that are targeted towards health specialists in order to prevent stigmatization of PWID should emphasize that although they are PWID, these health specialists should care for them as if they are their own family—after all, their own children or relatives could find themselves in the same position some day.
3. *Focus on improving knowledge to promote VCT service utilization.* While use of VCT services among PWID is low (**Figure 7**), the present study also shows that PWID with a high level of knowledge of HIV & AIDS are more likely to be tested for HIV (**Figure 17**). HIV knowledge is generally high in all countries, but not all PWID in Kazakhstan and Tajikistan have a high knowledge of HIV (**Figure 15**). While in Kazakhstan most PWID indicated that HIV cannot be transmitted by sharing food/utensils, many PWID in Kyrgyzstan and Tajikistan did not know that this is the case (**Figure 15a**). In Kazakhstan, there were PWID respondents who did not know that HIV can be transmitted through breast milk (**Figure 15a**). In Tajikistan, there were fewer PWID respondents who knew that the only way to tell if someone has HIV is to have them test for it, that a faithful couple is less likely of contracting HIV, and that a healthy looking person can be infected with HIV (**Figure 15a**). Program messages should reinforce among PWID that everyone is at risk of contracting HIV, even if there are no visible symptoms, as well as work to have PWID fully understand other misconceptions about HIV transmission (i.e., HIV cannot be transmitted through the sharing of utensils/dishes with someone who is infected with HIV, HIV can be transmitted through breast milk).

❖ Condom Use

Condom use was generally low among PWID. Almost one quarter of PWID surveyed indicated that they had never used a condom (**Figure 13**), and responses for condom use at last sex among PWID in Kazakhstan were especially low (**Figure 13a**). Consistent condom use with regular partners is relatively low in all countries (**Figure 14a**). Consistent condom use with

casual partners is slightly higher than use with regular partners, but is still quite low (**Figure 14b**). While there were fewer PWID respondents who had commercial partners, consistent condom use with commercial partners is very low in Kazakhstan and only half of the respondents in Tajikistan reported using condoms with commercial partners (**Figure 14c**).

Educational sessions should strengthen messages related to consistent condom use with all partners among PWID, particularly in Kazakhstan and Tajikistan. Programs should also focus on making sure that PWID understand the importance of using condoms not only with commercial and casual partners but also with regular partners by developing information, education, and communication (IEC) materials that accent condom use with different partners. Such an approach should involve conducting activities to spread the following messages: That any partner – no matter how trustworthy – could have HIV, that you can protect yourself and your partner by using condoms, and that you are personally at risk for being infected with HIV if you have had sex even once without a condom.

✶ TB testing

1. *Continue promoting TB testing among PWID by increasing access to testing.* Many PWID in Kyrgyzstan indicated having tested for TB in the last year, but this indicator was low in Kazakhstan and especially low in Tajikistan (**Figure 9**). The results show that PWID in Kyrgyzstan and Tajikistan believed that it is only necessary to undergo TB testing when they feel sick or ill (**Figure 12**). PWID should receive the message that it is important that they undergo testing once a year, and that PWID who are infected with HIV should be tested once every 6 months. Along with this message of the importance of getting tested, programs can also teach PWID that they should also encourage their peers to get tested, especially if they see they are showing symptoms. Programs should also work to increase PWID's access to TB testing (i.e., establishing more frequent mobile testing), which would also be in part helped by conducting program activities related to TB testing (i.e., conducting special events several times a year where PWID are motivated to participate and can come to get tested).
2. *Emphasize the importance of completing full TB treatment.* Many PWID respondents felt that TB patients stop treatment because they begin to feel better, and some also thought that TB patients stop treatment due to drug side effects (**Figure 10a-c**). Many PWID in Tajikistan also did not know that not finishing TB treatment can cause drug resistance (**Figure 11a**). Programs should continue to emphasize the necessity for PWID to go through full treatment and finish taking all of the drugs, despite the inconvenience and any side effects. Key messages for PWID should be that not doing so can cause drug-resistant TB and death. By improving knowledge of how drug treatment works among PWID, it is possible to get

more PWID to go through full treatment. Continuing to incorporate supportive family members into TB-related activities, where family members can learn how to support PWID through their treatment (such as reminding them when to take their pills) should also facilitate PWID finishing full treatment. Another way to facilitate the treatment of PWID would be to encourage among those on treatment to seek and receive social adherence support for not successfully completing treatment.

3. *Continue working to improve TB-related knowledge in order to facilitate TB testing among PWID.* The present study shows that if PWID have a high level of knowledge of TB, then they are more likely to test for TB (**Figure 18**). Most PWID respondents know that TB is curable, but not all PWID respondents knew that it cannot be transmitted via handshaking (**Figure 11a**). Programs, however, should still ensure that PWID also understand other ways of transmitting TB, other than airborne transmission. For example, only half of PWID respondents in Tajikistan knew that TB can be transmitted through raw milk from animals (**Figure 11a**). Programs should ensure that guides for outreach workers and program activities include a focus on knowledge related to decreasing the transmission of TB. Continuing to incorporate more doctors at informational events and sessions, who can confirm or answer questions about misconceptions related to TB, should also facilitate PWID knowledge of TB.
4. *Continue to work to decrease the stigma against TB treatment by working to increase social support.* PWID in Kyrgyzstan and Tajikistan indicated that they do not feel they receive social support with regards to TB treatment and fear that their relationship with friends, family, and partners may become damaged if those friends/family/partners find out that the PWID are on TB treatment (**Figure 12**). Family members and friends should be encouraged to participate in TB information sessions. Social or outreach workers under the project should speak with family members about TB and how best to support their loved ones during treatment for successful completion. Family and community members can be included in the case management process for adherence support to strengthen the supportive environment at home. Advocacy measures should be taken up in order to decrease stigma and discrimination towards people infected with TB. It is important to remember that PWID in all three countries indicated that they fear losing their jobs if they are on TB treatment (**Figure 12**). Round tables and trainings aimed at health specialists, local government officials, and law enforcement on the rights of those infected with TB should be organized to raise awareness to this issue. Educational sessions for the community on TB knowledge, stigma reduction and importance of adherence should also help build social support for PWID who are infected with TB and who are going through treatment, as well as decrease stigma against those PWID. Informational sessions should also

acquaint PWID with their rights so they know how to protect themselves from wrongful termination for being on TB treatment.

The obstacles to implementing these program recommendations include stigma against PWID and PWID infected with HIV or TB, quality of service, and the difficulty in reaching the PWID populations in CAR. Yet, these challenges underscore the importance of bringing together researchers, programmers, local NGOs, and governmental organizations to ensure the success of future programming.

ANNEXES:

ANNEX A: MONITORING TABLES

Monitoring Table 1

Sharing Injecting Equipment among PWID in Central Asia, 2012

Risk Group: People Who Inject Drugs in Central Asia (Kazakhstan, Kyrgyzstan and Tajikistan)

Behavior: Injecting behavior and overdose experience

	Karaganda, KZ N=100	Osh Oblast, KG N=100	Kulob, TJ N=100	Aggregation of 3 sites N=300
INDICATORS	% / Mean	% / Mean	% / Mean	% / Mean
INJECTING BEHAVIOR				
Shared needle at last injection	4.3% (98)	16.3% (98)	1.9% (98)	6.0% (294)
Shared injecting equipment (spoon, cup, cotton, filter, rinsing water) at last injection	29.1% (96)	29.6% (98)	2.0% (98)	16.6% (292)
Shared needle in the last month	4.3% (98)	24.5% (98)	17.2% (98)	15.0% (294)
Average number of times shared needle in the last month (among who shared)	5.00	4.08	2.50	3.63
The last time shared needle				
Today	0.0% (16)	6.8% (49)	4.0% (37)	3.4% (102)
Few days ago	7.7% (16)	34.0% (49)	22.7% (37)	20.8% (102)
A month ago	0.0% (16)	6.9% (49)	20.3% (37)	11.0% (102)
Few months ago	38.5% (16)	27.1% (49)	48.8% (37)	40.6% (102)
A year ago	0.0% (16)	0.0% (49)	0.0% (37)	0.0% (102)
More than a year ago	53.8% (16)	25.2% (49)	4.3% (37)	24.2% (102)
Shared injecting equipment in the last month	30.7% (96)	41.1% (98)	3.9% (92)	20.7% (286)
Average number of times shared injecting equipment in the last month (among who shared)	6.36	8.09	13.11	9.89
PWID who were active in the last month and who report sharing injecting equipment the last time they injected drugs (among all) ☺	29.1% (96)	36.5% (98)	2.5% (98)	18.5% (292)
PWID who were active in the last month and who report sharing injecting equipment the last time they injected drugs (among Male) ☺	27.6% (72)	30.9% (80)	3.0% (87)	17.0% (239)
PWID who were active in the last month and who report sharing injecting equipment the last time they injected drugs (among Female) ☺	36.2% (24)	59.3% (18)	0.0% (11)	24.8% (53)
Received help at the 1st injection	86.0% (98)	85.2% (98)	61.4% (98)	74.4% (294)

Helped others to inject for the 1st time in the last 3 months	8.4% (98)	10.8% (98)	31.4% (98)	19.6% (294)
	Karaganda, KZ N=100	Osh Oblast, KG N=100	Kulob, TJ N=100	Aggregation of 3 sites N=300
INDICATORS	% / Mean	% / Mean	% / Mean	% / Mean
INJECTING BEHAVIOR				
Average number of people PWID helped to inject for the first time in the last 3 months	3.3	2.2	2.6	2.7
Received drug addiction services	16.8% (98)	76.5% (98)	45.9% (98)	44.2% (294)
Drug addiction services treated				
Detoxification	12.1% (98)	17.5% (98)	12.5% (98)	13.5% (294)
Rehabilitation	8.0% (98)	52.7% (98)	14.8% (98)	21.5% (294)
Substitution therapy	1.7% (98)	3.7% (98)	15.5% (98)	8.6% (294)
INJECTING BEHAVIOR - OAM				
OPPORTUNITY				
Social Norms				
<i>Needle sharing group norm (construct)</i> - When I inject in a group, my friends use their own needles/syringes - My friends refuse to share their needles/syringes with people they don't know well - My friends refuse to share spoons, cups, cotton, filter, rinse water	3.5	3.4	2.3	2.9
When I inject in a group, my friends use their own needles/syringes	3.69	3.62	2.31	3.03
My friends refuse to share their needles/syringes with people they don't know well	3.67	3.50	2.35	3.02
My friends refuse to share spoons, cups, cotton, filter, rinse water	3.00	3.00	2.32	2.68
ABILITY - MOTIVATION				
Self-Efficacy - Intentions				
<i>Needle sharing self-efficacy and intention (construct)</i> - I am confident I can refuse to share needles even if a close friend asks me to - I am not going to share needles with another person in the future - I am not going to share spoons, cups, cotton, filters, and rinse water in the future	3.5	3.5	2.5	3.0

	Karaganda, KZ N=100	Osh Oblast, KG N=100	Kulob, TJ N=100	Aggregation of 3 sites N=300
INDICATORS	% / Mean	% / Mean	% / Mean	% / Mean
INJECTING BEHAVIOR				
ABILITY				
Self-Efficacy				
I am confident I can refuse to share needles even if a close friend asks me to	3.53	3.67	2.69	3.17
MOTIVATION				
Intentions				
I am not going to share needles with another person in the future	3.71	3.50	2.41	3.06
I am not going to share spoons, cups, cotton, filters, and rinse water in the future	3.18	3.42	2.39	2.87
Attitude				
I don't like carrying syringe/needles with me ®	1.9	1.9	2.1	1.9
I am afraid to always carry new needles/syringes with me ®	1.8	1.4	2.1	1.8
OVERDOSE EXPERIENCE				
Suffered from overdose in the last year	14.2% (98)	27.8% (98)	24.4% (98)	22.1% (294)
Average number of times suffering from overdose (among who got overdose)	6.13	1.55	1.72	3.02
What did others do to help you when you suffered from an overdose?				
Called ambulance	37.3% (16)	14.3% (22)	11.0% (25)	19.8% (63)
Tub with cold water	0.0% (16)	0.0% (22)	9.8% (25)	4.5% (63)
Injected sodium	13.5% (16)	3.3% (22)	0.0% (25)	4.9% (63)
Made vomit	0.0% (16)	9.7% (22)	2.1% (25)	3.2% (63)
Injected naloxone	0.0% (16)	48.6% (22)	36.5% (25)	28.2% (63)
Closed-chest cardiac massage	22.9% (16)	7.9% (22)	10.7% (25)	13.7% (63)
Sent to hospital	0.0% (16)	0.0% (22)	8.4% (25)	3.9% (63)
Nothing	10.6% (16)	1.8% (22)	19.2% (25)	12.5% (63)
Witnessed someone suffer from overdose in the last year	31.2% (98)	50.6% (98)	43.4% (95)	41.4% (291)
What did you, or someone else, do for the overdosed person?				
Called ambulance	42.4% (36)	27.8% (47)	13.1% (40)	25.4% (123)
Tub with cold water	0.6% (36)	0.6% (47)	44.8% (40)	21.1% (123)
Injected sodium	31.6% (36)	27.0% (47)	8.9% (40)	20.0% (123)
Made vomit	1.3% (36)	0.0% (47)	5.1% (40)	2.8% (123)
Injected naloxone	0.0% (36)	36.7% (47)	18.5% (40)	17.1% (123)
Closed-chest cardiac massage	29.6% (36)	31.4% (47)	53.5% (40)	41.1% (123)
Sent to hospital	1.6% (36)	0.0% (47)	1.2% (40)	1.0% (123)
Nothing	4.5% (36)	7.8% (47)	16.7% (40)	10.9% (123)

	Karaganda, KZ N=100	Osh Oblast, KG N=100	Kulob, TJ N=100	Aggregation of 3 sites N=300
	% / Mean	% / Mean	% / Mean	% / Mean
NALOXONE USE				
Heard about naloxone	15.8% (98)	69.4% (98)	45.7% (90)	42.1% (286)
Received or bought Naloxone	0.7% (98)	49.8% (98)	28.2% (90)	24.9% (286)
Where Naloxone was usually acquired				
Received for free from Dialogue project	0.0% (1)	43.0% (38)	87.1% (30)	50.4% (69)
Friends	0.0% (1)	34.7% (38)	12.9% (30)	14.1% (69)
Family members	0.0%(1)	0.0% (38)	0.0% (30)	0.0% (69)
Others	100.0% (1)	22.3%(38)	0.0% (30)	35.6% (69)
Average number of times received Naloxone for free from USAID Dialogue project (among who received)	0	1.85	5.00	3.95
What happened to those ampoules? %				
Administered on you		39.5% (30)	55.5% (26)	50.1% (56)
Administered on friends/peer users		55.0% (30)	39.7% (26)	44.8% (56)
Broken/damaged		2.3% (30)	0.0% (26)	0.8% (56)
Lost		11.9% (30)	10.1% (26)	10.7% (56)
Confiscated		0.0% (30)	0.0% (26)	0.0% (56)
Contaminated		11.2% (30)	0.0% (26)	3.7% (56)
Sold		0.0% (30)	0.0% (26)	0.0% (56)
Shared/given away		70.4% (30)	6.8% (26)	28.0% (56)
Still keep it and good to be used		98.1% (30)	57.3% (26)	70.9% (56)
Other		0.0% (30)	0.0% (26)	0.0% (56)
What happened to those ampoules? - Average number of ampoules				
Administered on you		1.73	2.03	1.93
Administered on friends/peer users		2.15	0.77	1.23
Broken/damaged		0.06	0.00	0.02
Lost		0.15	0.13	0.14
Confiscated		0.00	0.00	0.00
Contaminated		0.15	0.00	0.05
Sold		0.00	0.00	0.00
Shared/given away		2.12	0.40	0.97
Still keep it and good to be used		2.45	1.70	1.95
OVERDOSE EXPERIENCE AND NALOXONE USE - OAM ABILITY				
Self-efficacy				
I am confident I can provide first aid to someone suffering from an overdose	3.6	3.6	3.6	3.6

	Karaganda, KZ N=100	Osh Oblast, KG N=100	Kulob, TJ N=100	Aggregation of 3 sites N=300
	Mean	Mean	Mean	Mean
MOTIVATION				
Attitude				
<i>Naloxone (construct)</i> - Naloxone can prevent death if given to a person suffering an opiate induced overdose - I will use naloxone if someone around me is suffering from an overdose - It is easy to use naloxone in the event of an overdose	3.4	3.7	3.1	3.3
Naloxone can prevent death if given to a person suffering an opiate induced overdose	3.39	3.61	3.16	3.34
I will use naloxone if someone around me is suffering from an overdose	3.40	3.78	3.28	3.43
It is easy to use naloxone in the event of an overdose	3.29	3.72	2.79	3.16

Note:

1. For the majority of OAM (Opportunity, Ability and Motivation) factors the scale of 1 through 4 is used, unless otherwise noted. In this scale: 1 is completely disagree, 2 – disagree, 3 – agree, and 4 – completely agree. Mean scores are presented. A mean score of below 2.5 indicates that the majority disagrees with the statement and a mean score of higher than 2.5 indicates that the majority agrees. A mean score of 2.5 indicates that overall respondents neither agree nor disagree with the statement.

2. ® - Reverse-coded items. Scores for these items have been reversed so that a high score = positive/desired response. Wording of these items has not been reversed and they read as they were presented to the respondents. For knowledge-based items, the scores for items have been reversed where the item is factually incorrect so the % presented is those who knew the correct answer.

3. 📍 - Logframe indicator

Monitoring Table 2

VCT utilization among PWID in Central Asia, 2012

Risk Group: People Who Inject Drugs in Central Asia (Kazakhstan, Kyrgyzstan and Tajikistan)

Behavior: Voluntary Counseling and Testing (VCT) utilization

	Karaganda, KZ N=100	Osh Oblast, KG N=100	Kulob, TJ N=100	Aggregation of 3 sites N=300
INDICATORS	% / Mean	% / Mean	% / Mean	% / Mean
VCT				
Ever tested for HIV	83.8% (98)	93.2% (98)	85.9% (92)	87.0% (288)
Reasons for not being tested				
Afraid of + result	4.3% (20)	20.9% (6)	21.9% (16)	16.3% (42)
Nothing I can do if I am positive	0.0%	50.6% (6)	16.8% (16)	19.5% (42)
Don't want to spend money for	0.0%	0.0% (6)	24.7% (16)	11.5% (42)

that				
Afraid of stigma	0.0%	14.3% (6)	10.1% (16)	8.0% (42)
I don't want to get tested	19.3% (20)	19.2% (6)	2.8% (16)	11.6% (42)
I don't know where to get tested	6.0% (20)	0.0% (6)	2.7% (16)	3.1% (42)
Unfriendly health staff	0.0% (20)	0.0% (6)	5.9% (16)	2.7% (42)
Believe that I am not HIV-infected	35.8% (20)	0.0% (6)	16.4% (16)	18.5% (42)
Don't care to know status	39.5% (20)	0.0% (6)	17.4% (16)	20.0% (42)
Tested for HIV in the last 12 months (among all)	53.5% (98)	89.7% (98)	59.3% (88)	64.6% (284)
Tested for HIV in the last 12 months (among those ever tested)	63.8% (78)	96.4% (92)	69.3% (73)	73.9% (243)
Tested for HIV and received results in the last 12 months (among all) 🔄	51.2% (98)	84.6% (98)	45.6% (92)	56.4% (288)
Received results of last test (of those tested for HIV in the last 12 months)	95.7% (43)	94.3% (88)	76.9% (57)	87.2% (188)
Reason not receiving the result				
Too long to wait	0.0% (4)	50.0% (2)	76.0% (19)	46.9% (25)
Too far to travel to return	43.8% (4)	50.0% (2)	24.0% (19)	36.1% (25)
Other	56.3% (4)	0.0% (2)	0.0% (19)	17.1% (25)
Received counseling at the places of the last test	60.6% (78)	98.5% (91)	67.0% (73)	72.4% (242)
VCT - OAM				
OPPORTUNITY	Mean	Mean	Mean	Mean
Availability				
I know where I can go for voluntary counseling and testing for HIV	3.6	3.8	3.7	3.7
Social Norms				
<i>VCT social norm (construct)</i> - People in my network believe getting tested for HIV regularly is important - People in my network are comfortable discussing getting tested for HIV with their close family - People in my network often discuss getting tested for HIV with their friends	2.7	3.4	3.5	3.2
People in my network believe getting tested for HIV regularly is important	2.84	3.66	3.47	3.32
People in my network are comfortable discussing getting tested for HIV with their close family	2.71	3.14	3.43	3.15
People in my network often discuss getting tested for HIV with their friends	2.50	3.35	3.50	3.16

	Karaganda, KZ N=100	Osh Oblast, KG N=100	Kulob, TJ N=100	Aggregation of 3 sites N=300
INDICATORS	Mean	Mean	Mean	Mean
ABILITY				
Self-efficacy				
<i>VCT self-efficacy (construct)</i> - I am confident that I can reveal my status (positive or negative) to my partner - I am confident that I can reveal my status (positive or negative) to my peers - I am confident that I can reveal my status (positive or negative) to my health professional	3.2	3.1	3.4	3.3
I am confident that I can reveal my status (positive or negative) to my partner	3.18	3.14	3.65	3.39
I am confident that I can reveal my status (positive or negative) to my peers	2.80	2.66	3.03	2.87
I am confident that I can reveal my status (positive or negative) to my health professional	3.57	3.38	3.42	3.46
Social Support				
<i>VCT social support (construct)</i> - My family members encourage me to be tested for HIV - My partner supports my decision to get tested for HIV - My friends encourage me to be tested for HIV	2.7	3.4	3.7	3.3
My family members encourage me to be tested for HIV	2.35	3.34	3.64	3.18
My partner supports my decision to get tested for HIV	3.06	3.51	3.75	3.49
My friends encourage me to be tested for HIV	2.53	3.42	3.47	3.17
I would encourage my partner(s) to get tested for HIV	3.5	3.7	3.6	3.6
MOTIVATION				
Beliefs				
Health care providers would treat me poorly if they knew I inject drugs ®	2.0	1.7	3.3	2.5
Intentions				
I plan to get tested every year	3.4	3.7	3.8	3.7

Note:

1. For the majority of OAM (Opportunity, Ability and Motivation) factors the scale of 1 through 4 is used, unless otherwise noted. In this scale: 1 is completely disagree, 2 – disagree, 3 – agree, and

4 – completely agree. Mean scores are presented. A mean score of below 2.5 indicates that the majority disagrees with the statement and a mean score of higher than 2.5 indicates that the majority agrees. A mean score of 2.5 indicates that overall respondents neither agree nor disagree with the statement.

2. ® - Reverse-coded items. Scores for these items have been reversed so that a high score = positive/desired response. Wording of these items has not been reversed and they read as they were presented to the respondents. For knowledge-based items, the scores for items have been reversed where the item is factually incorrect so the % presented is those who knew the correct answer.

3. ⚙ - Logframe indicator

Monitoring Table 3

TB testing and treatment among PWID in Central Asia, 2012

Risk Group: People Who Inject Drugs in Central Asia (Kazakhstan, Kyrgyzstan and Tajikistan)

Behavior: TB testing and treatment

	Karaganda, KZ N=100	Osh Oblast, KG N=100	Kulob, TJ N=100	Aggregation of 3 sites N=300
INDICATORS	% / Mean	% / Mean	% / Mean	% / Mean
TB TESTING AND TREATMENT				
Tested for TB in the last 12 months	71.1% (98)	85.6% (98)	31.2% (93)	56.0% (289)
Tested for TB and received results in the last 12 months (among all) ⚙	62.8% (98)	84.1% (98)	26.9% (93)	51.1% (289)
Knows where to get TB testing	94.1% (98)	100.0%	81.1% (97)	89.4% (295)
Tested for TB in the last 12 months (among those who know where to test)	74.0% (90)	85.6% (98)	36.1% (78)	59.1% (266)
Of those tested for TB in the last 12 months, received test results	88.7% (71)	98.4% (84)	86.6% (29)	90.0% (184)
TB positive	9.2% (68)	13.1% (83)	33.0% (26)	21.1% (177)
Received TB treatment	92.2% (6)	97.3% (9)	86.5% (7)	90.7% (22)
Contacted by social workers during treatment	84.1% (5)	64.3% (8)	78.1% (6)	76.7% (19)
Contacted by social workers from USAID Dialogue project ⚙	16.7% (5)	66.3% (8)	56.4% (6)	46.6% (19)
What did s/he do				
Followed if I was taking my medications for TB	0.0% (2)	83.3% (6)	100.0% (3)	65.7% (11)
Talked with my family members to help me during my treatment	0.0% (2)	50.0% (6)	100.0% (3)	58.0% (11)
Referred me to TB related services	0.0% (2)	50.0% (6)	100.0% (3)	58.0% (11)
Referred my family members to TB related services	0.0% (2)	16.7% (6)	66.7% (3)	34.8% (11)
In your opinion, why do TB patients sometimes stop taking				

drugs before completing their treatment course?				
Feeling better	29.4% (98)	79.5% (98)	47.0% (98)	49.2% (294)
Don't have money	2.5% (98)	26.9% (98)	29.0% (98)	20.5% (294)
Drug side effects	9.7% (98)	9.3% (98)	19.8% (98)	14.3% (294)
No drugs	0.5% (98)	6.5% (98)	9.3% (98)	6.0% (294)
Difficult to get to the health facility	0.0% (98)	1.0% (98)	11.7% (98)	5.7% (294)
Health professional's bad attitude	2.0% (98)	29.7% (98)	0.8% (98)	7.9% (294)
Drug use	7.1% (98)	0.0% (98)	15.9% (98)	9.5% (294)
	Karaganda, KZ N=100	Osh Oblast, KG N=100	Kulob, TJ N=100	Aggregation of 3 sites N=300
INDICATORS	% / Mean	% / Mean	% / Mean	% / Mean
TB KNOWLEDGE				
Know 3 or more symptoms of TB	53.0% (98)	72.7% (98)	70.9% (98)	65.9% (294)
Know 3 or more items to decrease TB transmission	9.6% (98)	22.8% (98)	55.2 (98)%	33.8% (294)
Which symptoms of TB do you know?				
Cough for 2 weeks or more	93.4% (98)	84.2% (98)	65.3% (98)	78.2% (294)
Low-grade fever	37.9% (98)	49.0% (98)	43.8% (98)	43.2% (294)
Night hyperhidrosis	41.2% (98)	65.5% (98)	34.8% (98)	43.9% (294)
Weakness/Fatigue	20.3% (98)	44.0% (98)	50.5% (98)	39.8% (294)
Appetite loss	27.2% (98)	41.2% (98)	41.5% (98)	37.1% (294)
Weight loss	21.1% (98)	35.6% (98)	40.2% (98)	33.3% (294)
Blood in sputum	23.7% (98)	1.6% (98)	27.8% (98)	20.5% (294)
Chest pain	1.3% (98)	0.0% (98)	17.2% (98)	8.4% (294)
What can each person do to decrease transmission of tuberculosis?				
Cover his/her mouth when coughing	20.2% (98)	31.4% (98)	62.5% (98)	42.4% (294)
Regularly aerate workplace and dwelling	6.8% (98)	12.0% (98)	40.2% (98)	23.5% (294)
Not to spit in public places	0.3% (98)	12.0% (98)	38.1% (98)	20.6% (294)
Annual examination	34.9% (98)	47.4% (98)	32.3% (98)	36.6% (294)
Timely treatment	23.1% (98)	20.7% (98)	38.9% (98)	29.9% (294)
Healthy life style	31.1% (98)	29.8% (98)	21.0% (98)	26.1% (294)
Go to the doctor as soon as tuberculosis symptoms are observed	28.7% (98)	7.4% (98)	39.2% (98)	28.6% (294)
Complete TB treatment	1.0% (98)	19.7% (98)	17.2% (98)	12.9% (294)
TB knowledge				
TB is curable with the right treatment. ☺	94.1% (98)	99.2% (98)	87.9% (98)	92.4% (294)
TB is easier to cure in early stages	100.0% (98)	95.1% (98)	90.5% (98)	94.5% (294)
Untreated TB can cause death.	100.0% (98)	100.0% (98)	85.6% (98)	93.3% (294)
TB is spread from one person to the other through coughing	98.8% (98)	98.0% (98)	83.6% (98)	91.6% (294)

and spitting.				
	Karaganda, KZ N=100	Osh Oblast, KG N=100	Kulob, TJ N=100	Aggregation of 3 sites N=300
INDICATORS	% / Mean	% / Mean	% / Mean	% / Mean
I can get TB by shaking hands with someone ®	68.4% (98)	71.4% (98)	73.2% (98)	71.3% (294)
I can get TB by drinking raw milk from infected animals.	64.1% (98)	79.4% (98)	53.8% (98)	62.9% (294)
People with HIV are more at risk of TB.	87.5% (98)	97.2% (98)	71.7% (98)	82.4% (294)
If you have TB infection you may have to take medicine, even if you don't feel sick.	99.5% (98)	99.0% (98)	66.7% (98)	84.2% (294)
If you stop treatment before completion, the disease can become resistant to drugs.	94.0% (98)	93.8% (98)	69.5% (98)	82.6% (294)
Answered correctly 5 or more questions about TB	100.0% (98)	100.0% (98)	81.8% (98)	91.6% (296)
TB SERVICE USE OAM				
OPPORTUNITY	Mean	Mean	Mean	Mean
Availability				
<i>TB service availability (construct)</i> - I know where the nearest TB testing facility is available - TB testing services are easily available - TB testing facility hours are convenient - I know where the nearest TB treatment facility is available - TB treatment services are easily accessible in my local area	3.8	3.7	3.6	3.7
I know where the nearest TB testing facility is available	3.88	3.87	3.64	3.77
TB testing services are easily available	3.81	3.63	3.58	3.66
TB testing facility hours are convenient	3.76	3.59	3.53	3.61
I know where the nearest TB treatment facility is available	3.87	3.75	3.72	3.77
TB treatment services are easily accessible in my local area	3.72	3.61	3.65	3.66
Social norms				
<i>TB test social norm (construct)</i> - People in my network encourage me to be tested for TB - My family members encourage me to be tested for TB - My partner encourages me to	2.6	3.4	3.7	3.3

be tested for TB				
	Karaganda, KZ N=100	Osh Oblast, KG N=100	Kulob, TJ N=100	Aggregation of 3 sites N=300
INDICATORS	% / Mean	% / Mean	% / Mean	% / Mean
People in my network encourage me to be tested for TB	2.46	3.35	3.48	3.14
My family members encourage me to be tested for TB	2.53	3.38	3.74	3.29
My partner encourages me to be tested for TB	2.63	3.52	3.74	3.35
<i>TB treatment social norm (construct)</i> - My partner would encourage me to complete TB treatment - People in my network would encourage me to fully complete TB treatment - People in my network tell me about the importance of completing TB treatment	3.5	3.7	3.7	3.6
My partner would encourage me to complete TB treatment	3.60	3.69	3.74	3.68
People in my network would encourage me to fully complete TB treatment	3.45	3.67	3.53	3.54
People in my network tell me about the importance of completing TB treatment	3.34	3.75	3.53	3.52
ABILITY				
Self-efficacy				
I am confident I could successfully complete TB treatment	3.8	3.6	3.7	3.7
I am confident I could follow instructions to complete TB treatment	3.8	3.6	3.7	3.7
Social support				
<i>TB treatment social support (construct)</i> - I may lose friends if they know I am on TB treatment R - I could lose my job if on TB treatment R - Being on TB treatment could damage my relationship with my family ® - Being on TB treatment could damage my relationship with my partner ®	2.9	2.2	1.7	2.2
I may lose friends if they know I am on TB treatment ®	3.01	2.26	1.80	2.27
I could lose my job if on TB treatment ®	2.13	1.90	1.78	1.92

	Karaganda, KZ N=100	Osh Oblast, KG N=100	Kulob, TJ N=100	Aggregation of 3 sites N=300
INDICATORS	% / Mean	% / Mean	% / Mean	% / Mean
Being on TB treatment could damage my relationship with my family ®	3.17	2.42	1.58	2.26
Being on TB treatment could damage my relationship with my partner ®	3.20	2.26	1.66	2.27
MOTIVATION				
Beliefs				
I should only go for TB Testing when I am sick or ill ®	2.8	2.0	1.2	1.9
Intentions				
<i>TB test intention (construct)</i> - I plan to get tested if I have TB symptoms - I plan to get tested every year - I plan to get tested for TB because I am at risk	3.7	3.8	3.9	3.8
I plan to get tested if I have TB symptoms	3.84	3.85	3.85	3.84
I plan to get tested every year	3.62	3.73	3.80	3.73
I plan to get tested for TB because I am at risk	3.57	3.69	3.90	3.75

Note:

1. For the majority of OAM (Opportunity, Ability and Motivation) factors the scale of 1 through 4 is used, unless otherwise noted. In this scale: 1 is completely disagree, 2 – disagree, 3 – agree, and 4 – completely agree. Mean scores are presented. A mean score of below 2.5 indicates that the majority disagrees with the statement and a mean score of higher than 2.5 indicates that the majority agrees. A mean score of 2.5 indicates that overall respondents neither agree nor disagree with the statement.

2. ® - Reverse-coded items. Scores for these items have been reversed so that a high score = positive/desired response. Wording of these items has not been reversed and they read as they were presented to the respondents. For knowledge-based items, the scores for items have been reversed where the item is factually incorrect so the % presented is those who knew the correct answer.

3. ☼ - Logframe indicator

Monitoring Table 4

HIV knowledge and sexual behavior among PWID in Central Asia, 2012

Risk Group: People Who Inject Drugs in Central Asia (Kazakhstan, Kyrgyzstan and Tajikistan)

Behavior: HIV knowledge and condom use

	Karaganda, KZ N=100	Osh Oblast, KG N=100	Kulob, TJ N=100	Aggregation of 3 sites N=300
INDICATORS	% / Mean	% / Mean	% / Mean	% / Mean
HIV KNOWLEDGE				
- High knowledge of HIV transmission routes, % (≤ 4 low, 5-6 high) ☺	84.1% (98)	100.0% (98)	84.9% (98)	88.2% (294)
I can get HIV from a single sex act	86.7% (98)	92.9% (98)	95.9% (98)	92.4% (294)
I can get HIV through kissing ®	88.4% (98)	88.4% (98)	84.8% (98)	86.7% (294)
I can get HIV through hugging ®	96.7% (98)	93.5% (98)	85.9% (98)	90.9% (294)
I can get HIV through sharing utensils or food with an infected person ®	77.1% (98)	56.0% (98)	59.0% (98)	63.8% (294)
HIV can be transmitted through vaginal fluid	92.4% (98)	96.0% (98)	82.9% (98)	88.8% (294)
HIV can be transmitted through semen	95.5% (98)	99.0% (98)	86.9% (98)	92.3% (294)
HIV can be transmitted through blood	100.0% (98)	100.0% (98)	95.5% (98)	97.9% (294)
HIV can be transmitted through breast milk	59.5% (98)	96.8% (98)	87.4% (98)	81.1% (294)
HIV can be transmitted by using used injection needles	100.0% (98)	100.0% (98)	86.1% (98)	93.6% (294)
An HIV test is the only way to tell if one has HIV	100.0% (98)	97.1% (98)	68.6% (98)	84.8% (294)
Using condoms regularly reduces the risk of getting HIV	94.1% (98)	98.5% (98)	78.6% (98)	87.9% (294)
A couple who is faithful to each other reduces the risk of HIV	95.0% (98)	98.5% (98)	68.9% (98)	83.7% (294)
Healthy-looking person can be infected with HIV	90.3% (98)	96.5% (98)	63.3% (98)	79.2% (294)
CONDOM USE				
Ever had sex	100.0% (100)	100.0% (98)	90.3% (98)	95.5% (296)
Ever had sex in exchange for money or goods	17.3% (98)	59.3 (98)	54.1% (97)	44.1 (293)
Number of sexual partners				
Total (in the last 12 months)	5.0	3.8	3.7	4.1
Regular (in the last 12 months)	1.6	1.5	1.6	1.6
Casual (in the last 6 months)	3.8	2.0	2.1	2.6

	Karaganda, KZ N=100	Osh Oblast, KG N=100	Kulob, TJ N=100	Aggregation of 3 sites N=300
INDICATORS	% / Mean	% / Mean	% / Mean	% / Mean
Commercial (in the last 6 months)	2.3	2.6	2.0	2.2
Ever used condom	72.6% (98)	88.5% (98)	71.9% (91)	76.0% (287)
Used condom at last sex ☹	36.3% (89)	61.9% (92)	56.8% (91)	51.7% (272)
Used condom from start to finish during last sex	34.7% (86)	58.4% (92)	54.7% (91)	49.5% (269)
Used condom for sex in the last 12 months with REGULAR partners				
Always	27.2% (87)	43.5% (84)	34.7% (61)	34.5% (232)
Sometimes	11.6% (87)	20.2% (84)	8.0% (61)	11.9% (232)
Rarely	8.1% (87)	4.1% (84)	32.0% (61)	18.3% (232)
Never	53.1% (87)	32.2% (84)	25.3% (61)	35.3% (232)
Used condom for sex in the last 6 months with CASUAL partners				
Always	56.5% (47)	85.2% (53)	41.7% (35)	56.3% (135)
Sometimes	5.3% (47)	11.2% (53)	8.7% (35)	8.2% (135)
Rarely	4.2% (47)	1.8% (53)	28.9% (35)	15.1% (135)
Never	34.0% (47)	1.8% (53)	20.7% (35)	20.4% (135)
Used condom for sex in the last 6 months with COMMERCIAL partners				
Always	36.5% (8)	88.1% (46)	49.8% (25)	54.6% (79)
Sometimes	6.3% (8)	9.2% (46)	13.2% (25)	10.2% (79)
Rarely	0.0% (8)	0.0% (46)	12.3% (25)	5.7% (79)
Never	57.1% (8)	2.8% (46)	24.7% (25)	29.4% (79)

Note:

1. For the majority of OAM (Opportunity, Ability and Motivation) factors the scale of 1 through 4 is used, unless otherwise noted. In this scale: 1 is completely disagree, 2 – disagree, 3 – agree, and 4 – completely agree. Mean scores are presented. A mean score of below 2.5 indicates that the majority disagrees with the statement and a mean score of higher than 2.5 indicates that the majority agrees. A mean score of 2.5 indicates that overall respondents neither agree nor disagree with the statement.

2. ☹ - Reverse-coded items. Scores for these items have been reversed so that a high score = positive/desired response. Wording of these items has not been reversed and they read as they were presented to the respondents. For knowledge-based items, the scores for items have been reversed where the item is factually incorrect so the % presented is those who knew the correct answer.

3. ☹ - Logframe indicator

ANNEX B: SEGMENTATION TABLES

Segmentation Table 1

Factors of needles and injecting equipment sharing among PWID in Kazakhstan, Kyrgyzstan and Tajikistan, 2012

Risk Group: People Who Inject Drugs in Central Asia (Kazakhstan, Kyrgyzstan and Tajikistan)

Behavior: Sharing needles and/or injecting equipment at last injection

INDICATORS	Not sharing	Sharing	OR	Sig.
	N= 282	N=18		
	94.1%	5.9%		
OAM				
ABILITY - MOTIVATION				
Self-Efficacy - Intentions				
Needle sharing self-efficacy and intention (construct)	3.26	2.51	3.42	***
Population characteristics				
Country				***

Note:

In "Sig" column, asterisks indicate significance: no: not significant; *: p<.05; **: p<.01; ***: p<.001.

Scale values range from 1 to 4: "1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree"

R: the statements are reversed to ensure the higher score, the more positive meaning

Omnibus χ^2 (df=4): 31.110, p<.001

GOF χ^2 (df=7): 6.682, p=0.463

Cox & Snell R²=0.102, Nagelkerke R²= .279

Segmentation Table 2

Factors of VCT service utilization among PWID in Kazakhstan, Kyrgyzstan and Tajikistan, 2012

Risk Group: People Who Inject Drugs in Central Asia (Kazakhstan, Kyrgyzstan and Tajikistan)

Behavior: Tested for HIV and received results in the last 12 months

INDICATORS	HIV testing	Not HIV testing	OR	Sig.
	N=167	N=129		
	56.3%	43.7%		
OAM				
OPPORTUNITY				
Availability				
I know where I can go for voluntary counseling and testing for HIV	3.83	3.44	2.08	**
ABILITY				
Social Support				
VCT social support (construct)	3.41	3.13	1.61	*
HIV/AIDS KNOWLEDGE				
Number of HIV knowledge items answered correctly	9.38	8.51	1.51	***
Population characteristics				
Country				***

Note:

In "Sig" column, asterisks indicate significance: no: not significant; *: $p < .05$; **: $p < .01$; ***: $p < .001$.

Scale values range from 1 to 4: "1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree"

R: the statements are reversed to ensure the higher score, the more positive meaning

Omnibus χ^2 (df=5): 66.235, $p < .001$

GOF χ^2 (df=8): 16.886, $p = 0.031$

Cox & Snell $R^2 = 0.237$, Nagelkerke $R^2 = 0.319$

Segmentation Table 3**Factors of TB service utilization among PWID in Kazakhstan, Kyrgyzstan and Tajikistan, 2012****Risk Group: People Who Inject Drugs in Central Asia (Kazakhstan, Kyrgyzstan and Tajikistan)****Behavior: Tested for TB and received results in the last 12 months**

INDICATORS	TB test	Not TB test	OR	Sig.
	N=153	N=144		
	51.5%	48.5%		
ABILITY				
TB Knowledge				
Number of TB symptoms that respondent can list	3.05	2.47	1.32	*
Population Characteristics				
Injecting duration (years)	5.01	4.51	1.14	*
Nationality				*

Note:

In "Sig" column, asterisks indicate significance: no: not significant; *: $p < .05$; **: $p < .01$; ***: $p < .001$.

Scale values range from 1 to 4: "1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree"

R: the statements are reversed to ensure the higher score, the more positive meaning

Omnibus χ^2 (df=10): 110.674, $p < .001$

GOF χ^2 (df=8): 11.209, $p = 0.190$

Cox & Snell $R^2 = 0.311$, Nagelkerke $R^2 = 0.415$

ANNEX C: RELIABILITY ANALYSIS

RELIABILITY ANALYSIS 1:

Sharing Injecting Equipment among PWID in Central Asia, 2012

Risk Group: People Who Inject Drugs in Central Asia (Kazakhstan, Kyrgyzstan and Tajikistan)

Behavior: Injecting behavior and overdose experience

Composite Variables	2012 (N=300) Cronbach's α
OPPORTUNITY	
Social Norms	
<i>Needle sharing group norm construct</i> When I inject in a group, my friends use their own needles/syringes My friends refuse to share their needles/syringes with people they don't know well My friends refuse to share spoons, cups, cotton, filter, rinse water	($\alpha=0.853$)
ABILITY - MOTIVATION	
Self-Efficacy - Intentions	
<i>Needle sharing self-efficacy and intention construct</i> I am confident I can refuse to share needles even if a close friend asks me to I am not going to share needles with another person in the future I am not going to share spoons, cups, cotton, filters, and rinse water in the future	($\alpha=0.799$)
MOTIVATION	
Attitude	
<i>Naloxone construct</i> Naloxone can prevent death if given to a person suffering an opiate induced overdose I will use naloxone if someone around me is suffering from an overdose It is easy to use naloxone in the event of an overdose	($\alpha=0.822$)

RELIABILITY ANALYSIS 2:

VCT utilization among PWID in Central Asia, 2012

Risk Group: People Who Inject Drugs in Central Asia (Kazakhstan, Kyrgyzstan and Tajikistan)

Behavior: Voluntary Counseling and Testing (VCT) utilization

Composite Variables	2012 (N=300) Cronbach's α
OPPORTUNITY	
Social Norms	
<i>VCT social norm construct</i> People in my network believe getting tested for HIV regularly is important People in my network are comfortable discussing getting tested for HIV with their close family People in my network often discuss getting tested for HIV with their friends	($\alpha=0.835$)
ABILITY	
Self-efficacy	
<i>VCT self-efficacy construct</i> I am confident that I can reveal my status (positive or negative) to my partner I am confident that I can reveal my status (positive or negative) to my peers	($\alpha=0.712$)

I am confident that I can reveal my status (positive or negative) to my health professional	
Social Support	
<i>VCT social support construct</i> My family members encourage me to be tested for HIV My partner supports my decision to get tested for HIV My friends encourage me to be tested for HIV	($\alpha=0.819$)

RELIABILITY ANALYSIS 3:

TB testing and treatment among PWID in Central Asia, 2012

Risk Group: People Who Inject Drugs in Central Asia (Kazakhstan, Kyrgyzstan and Tajikistan)

Behavior: TB testing and treatment

Composite Variables	2012 (N=300) Cronbach's α
OPPORTUNITY	
Availability	
<i>TB service availability construct</i> I know where the nearest a TB testing facility is available TB testing services are easily available TB testing facility hours are convenient I know where the nearest a TB treatment facility is available TB treatment services are easily accessible in my local area	($\alpha=0.833$)
Social Norms	
<i>TB test social norm construct</i> People in my network encourage me to be tested for TB My family members encourage me to be tested for TB My partner encourages me to be tested for TB	($\alpha=0.902$)
<i>TB treatment social norm construct</i> My partner would encourage me to complete TB treatment People in my network would encourage me to fully complete TB treatment People in my network tell me about the importance of completing TB treatment	($\alpha=0.800$)
ABILITY	
Social Support	
<i>TB treatment social support construct</i> I may lose friends if they know I am on TB treatment R I could lose my job if on TB treatment R Being on TB treatment could damage my relationship with my family ® Being on TB treatment could damage my relationship with my partner ®	($\alpha=0.838$)
MOTIVATION	
Intentions	
<i>TB test intention construct</i> I plan to get tested if I have TB symptoms I plan to get tested every year I plan to get tested for TB because I am at risk	($\alpha=0.75$)

RELIABILITY ANALYSIS 4:**HIV knowledge and sexual behavior among PWID in Central Asia, 2012****Risk Group: People Who Inject Drugs in Central Asia (Kazakhstan, Kyrgyzstan and Tajikistan)****Behavior: HIV knowledge and condom use**

Composite Variables	2012 (N=300) Cronbach's α
ABILITY	
Knowledge	
High knowledge of HIV transmission routes (≤ 4 low, 5-6 high)	
I can get HIV from a single sex act HIV can be transmitted through vaginal fluid HIV can be transmitted through semen HIV can be transmitted through blood HIV can be transmitted through breast milk HIV can be transmitted by using used injection needles	Index – no alpha required